Project Economics And Decision Analysis Hispanicore | 4c4a3873f48af9163657bd0f557ca0f6

Engineering Economics of Life Cycle Cost AnalysisMaking Choices in HealthProject Economics and Decision Analysis: Probabilistic modelsRational Choice and JudgmentChoosing SafetyMulti-criteria Decision AnalysisEconomics-Driven Software ArchitecturePortfolio Decision AnalysisThe Economics of Project AnalysisProbabilistic ModelsRisk Analysis in Engineering and EconomicsThe Economics of Parallel R and D EffortsProject Economics and Decision AnalysisFundamentals of Engineering Economics and Decision AnalysisDecision Analysis for Management JudgmentSolutions Manual to Accompany Engineering Economics for Capital Investment AnalysisFundamentals of Engineering Economics and Decision AnalysisProject Economics and Decision Analysis: Probabilistic modelsMultiple Criteria Decision AnalysisProject Economics and Decision AnalysisDecision Analysis for Petroleum ExplorationA Strategy for Using Multicriteria Analysis in Decision-MakingEconomic Analysis of Oil and Gas Engineering OperationsDeterministic ModelsMultiple Criteria Decision Analysis for Industrial EngineeringReal Option Modeling and ValuationProduct guide SUMMER 2008Guidelines for the Economic Analysis of ProjectsPetroleum Economics and Risk AnalysisBayesian Decision AnalysisRisk: A Very Short IntroductionDeterministic ModelsMultiple Criteria Decision AnalysisState of the Art SurveysRational Choice and JudgmentRisk and Decision Analysis in ProjectsDecision-making on Mega-projectsConfronting Climate Uncertainty in Water Resources Planning and Project DesignIntroduction to Decision AnalysisMaking Essential Choices with Scant InformationPetroleum Economics and Decision Analysis Petroleum Economics and Risk Analysis: A Practical Guide to E&P Investment Decision-Making, Volume 69, is a practical guide to the economic evaluation, risk evaluation and decision analysis of oil and gas projects through all stages of the asset lifecycle, from exploration to late life opportunities. This book will help readers understand and make decisions with regard to petroleum investment, portfolio analysis, discounting, profitability indicators, decision tree analysis, reserves accounting, exploration and production (E&P) project evaluation, and E&P asset evaluation. Includes case studies and full color illustrations for practical application Arranged to reflect lifecycle structure, from exploration through to decommissioning Demonstrates industry-standard decision-making techniques as applied to petroleum investments in the oil and gas industryThis book presents an introduction to MCDA followed by more detailed chapters about each of the leading methods used in this field. Comparison of methods and software is also featured to enable readers to choose the most appropriate method needed in their research. Worked examples as well as the software featured in the book are available on an accompanying website.Bayesian decision analysis supports principled decision making in complex domains. This textbook takes the reader from a formal analysis of simple decision problems to a careful analysis of the sometimes very complex and data rich structures confronted by practitioners. The book contains basic material on subjective probability theory and multi-attribute utility theory, event and decision trees, Bayesian networks, influence diagrams and causal Bayesian networks. The author demonstrates when and how the theory can be successfully applied to a given decision problem, how data can be sampled and expert judgements elicited to support this analysis, and when and how an effective Bayesian decision analysis can be implemented. Evolving from a third-year undergraduate course taught by the author over many years, all of the material in this book will be accessible to a student who has completed introductory courses in probability and mathematical statistics. The technological age has seen a range of catastrophically and predictable failures, often as a result of decisions that did not appropriately consider safety as a factor in design and engineering. Through more than a dozen practical examples from the author’s experience in nuclear power, aerospace, and other potentially hazardous facilities, Choosing Safety is the first book to bring together probabilistic risk assessment and decision analysis using real case studies. For managers, project leaders, engineers, scientists, and interested students, Michael V. Frank focuses on methods for making logical decisions about complex engineered systems and products in which safety is a key factor in design - and where failure can cause great harm, injury, or death. Engineering has changed dramatically in the last century. With modern computing systems, instantaneous communication, elimination of low/mid management, increased complexity, and extremely efficient supply chains, all have dramatically affected the responsibilities of engineers at all levels. The future will require cost effective systems that are more secure, interconnected, software centric, and complex. Employees at all levels need to be able to develop accurate cost estimates based upon defensible cost analysis. It is under this backdrop that this book is being written. By presenting the methods, processes, and tools needed to conduct cost analysis, estimation, and management of complex systems, this textbook is the next step beyond basic engineering economics. Features Focuses on systems life cycle costing Includes materials beyond basic engineering economics, such as simulation-based costing Presents cost estimating, analysis, and management from a total ownership cost perspective Offers numerous real-life examples Provides excel based textbook/problems Offers PowerPoint slides, Solutions Manual, and author website with downloadable excel solutions, etc.In this work, Rex Brown provides a set of simple systematic heuristic methods for a general course in decision making. This book deals with logical methods for the improvement of decision making in public and private enterprises. It promotes the development and use of logical methods for the improvement of decision-making in public and private enterprise. Such methods include models for decision-making under conditions of uncertainty or multiple objectives; techniques of risk analysis and risk assessment; experimental and descriptive studies of decision-making behavior; economic analysis of competitive and strategic decisions; and techniques for facilitating decision-making by groups. An in-depth look at how to improve decisions on major projects at the concept stage, when there is scant information available. This book describes how to evaluate judgemental information. It looks at how scant information can actually be a strength, and can help establish a broad overall perspective.
driven Software Architecture presents a guide for engineers and architects who need to understand the economic impact of architecture design decisions: the long term and strategic viability, cost-effectiveness, and sustainability of applications and systems. Economics-driven software development can increase quality, productivity, and profitability, but comprehensive knowledge is needed to understand the architectural challenges involved in dealing with the development of large, architecturally challenging systems in an economic way. This book covers how to apply economic considerations during the software architecting activities of a project. Architecture-centric approaches to development and systematic evolution, where managing complexity, cost reduction, risk mitigation, evolvability, strategic planning and long-term value creation are among the major drivers for adopting such approaches. It assists the objective assessment of the lifetime costs and benefits of evolving systems, and the identification of legacy situations, where architecture or a component is indispensable but can no longer be evolved to meet changing needs at economic cost. Such consideration will form the scientific foundation for reasoning about the economics of nonfunctional requirements in the context of architectures and architecting. Familiarizes readers with essential considerations in economic-informed and value-driven software design and analysis. Introduction techniques for making value-based software architecting decisions Provides readers a better understanding of the methods of economics-driven architecting.

Multiple Criteria Decision Analysis: State of the Art Surveys provides survey articles and references of the seminal or state-of-the-art research on MCDA. The material covered ranges from the foundations of MCDA, over various MCDA methodologies (outranking methods, multiattribute utility and value theories, non-classical approaches) to multiobjective mathematical programming, MCDA applications, and software. This vast amount of material is organized in 8 parts, with a total of 25 chapters. More than 2000 references are listed. In two volumes, this new edition presents the state of the art in Multiple Criteria Decision Analysis (MCDA). Reflecting the explosive growth in the field seen during the last several years, the editors not only present surveys of the foundations of MCDA, but look as well at many new areas and new applications. Individual chapter authors are among the most prestigious names in MCDA research, and combined their chapters bring the field completely up to date. Part I of the book considers the history and current state of MCDA, with surveys that cover the early history of MCDA and an overview that discusses the “pre-theoretical” assumptions of MCDA. Part II then presents the foundations of MCDA, with individual chapters that provide a very exhaustive review of preference modeling, along with a chapter devoted to the axiomatic basis of the different models that multiple criteria preferences. Part III looks at outranking methods, with three chapters that consider the ELECTRE methods, PROMETHEE methods, and a look at the rich literature of other outranking methods. Part IV, on Multiattribute Utility and Value Theories (MAUT), presents chapters on the fundamentals of this approach, the very well known UTA methods, the Analytic Hierarchy Process (AHP) and its more recent extension, the Analytic Network Process (ANP), as well as a chapter on MACBETH (Measuring Attractiveness by a Categorical Based Evaluation Technique). Part V looks at Non-Classical MCDA Approaches, with chapters on risk and uncertainty in MCDA, the decision rule approach to MCDA, the fuzzy integral approach, the verbal decision methods, and a tentative assessment of the role of fuzzy sets in decision analysis. Part VI, on Multiobjective Optimization, contains chapters on recent developments of vector and set optimization, the state of the art in continuous multiobjective programming, multiobjective combinatorial optimization, fuzzy multicriteria optimization, a review of the field of goal programming, interactive methods for solving multiobjective optimization problems, and relationships between MCDA and evolutionary multiobjective optimization (EMO). Part VII, on Applications, selects some of the most significant areas, including contributions of MCDA in finance, energy planning problems, telecommunication network planning and design, sustainable development, and portfolio analysis. Finally, Part VIII, on MCDM software, presents well known MCDA software packages. “The Guide, in Part I, begins with a brief description of generalized CEA and how it relates to the two questions raised above. It then considers issues relating to study design, estimating costs, assessing health effects, discounting, uncertainty and sensitivity analysis, and reporting results. Detailed discussions of selected technical issues and applications are provided in a series of background papers, originally published in journals, but included in this book for easy reference in Part II.” (from the back cover). Introduces principles of risk and decision analysis as they apply to project management, outlining strategies for effective decision-making while sharing insights into such areas as the typical inaccuracies of single point estimates and knowing when sufficient analysis has been performed to identify a best alternative. Confronting Climate Uncertainty in Water Resources Planning and Project Design describes an approach to facing two fundamental and unavoidable issues brought about by climate change uncertainty in water resources planning and project design. The first is a risk assessment problem. The second relates to risk management. This book provides background on the risks relevant in water systems planning, the different approaches to scenario definition in water system planning, and an introduction to the decision-scaling methodology upon which the decision tree is based. The decision tree is described as a scientifically defensible, repeatable, direct and clear method for demonstrating the robustness of a project to climate change. While applicable to all water resources projects, it allocates effort to projects in a way that is consistent with their potential sensitivity to climate risk. The process was designed to be hierarchical, with different stages or phases of analysis triggered based on the findings of the previous phase. An application example is provided followed by a descriptions of some of the tools available for decision making under uncertainty and methods available for climate risk management. The tool was designed for the World Bank but can be applicable in other scenarios where similar challenges arise. This book develops a whole strategy for decision-making, with the full participation of the decision-maker and utilizing continuous feedback. It introduces the use of the very well-known and proven methodology, linear programming, but specially adapted for this purpose. For this, it incorporates a method to include subjective concepts, as well as the possibility of working with many different and even contradictory objectives. The book is liberally populated with diverse case studies to illustrate the concepts.
This practical guide will be of interest to anyone undertaking analysis and decision-making, on both simple and complex projects, and who is looking for a strategy to organize, classify, and evaluate the large amount of information required to make an informed decision. The strategy includes methods to analyze the results and extract conclusions from them. The tools needed to make a better, more informed decision. Decision analysis (DA) is the logic of making a decision using quantitative models of the decision's factual and value judgments. DA is already widely used in business, government, medicine, economics, law, and science. However, most resources present only the logic and models rather than demonstrating how these methods can be effectively applied to the real world. This book offers an innovative approach to decision analysis by focusing on decision-making tools that can be utilized immediately to make better, more informed decisions. It uses no mathematics beyond arithmetic. Examining how decision makers think about their choices, this book provides problem-solving techniques that not only reflect sound modeling but also meet other essential requirements: they build on the thinking and knowledge that deciders already possess; they provide knowledge in a form that people are able and willing to provide; they produce results that the decider can use; and they are based on intimate and continuous interactions with the decider. The methods outlined in this text take into account such factors as the use, the user, the organization, available data, and subjective knowledge. Replete with exercises, case studies, and observations from the author’s own extensive consulting experience, the book quickly engages readers and enables them to master decision analysis by doing rather than by simply reading. Using familiar situations, it demonstrates how to handle knowledge as it unfolds in the real world. A term project is presented in the final chapter, in which readers can select an actual decision-making problem and apply their newfound tools to prepare a recommendation. A sample report is provided in the appendix. Beginning with qualitative structuring, the text advances to sophisticated quantitative skills that can be applied in both public and private enterprise, including: · Modeling decision-making under conditions of uncertainty or multiple objectives · Risk analysis and assessment · Communicating and justifying controversial decisions · Personal life choices · Political judgments · Adapting decision aid to organizations The book's broad applicability makes it an excellent resource for any organization or as a textbook for decision-making courses in a variety of fields, including public policy, business management, systems engineering, and general education. An Instructor’s Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department. Decision Analysis for Petroleum Exploration By Paul D. Newendorp The authors cover two general topics: basic engineering economics and risk analysis in this text. Within the topic of engineering economics are discussions on the time value of money and interest relationships. These interest relationships are used to define certain project criteria that are used by engineers and project managers to select the best economic choice among several alternatives. Projects examined will include both income- and service-producing investments. The effects of escalation, inflation, and taxes on the economic analysis of alternatives are discussed. Risk analysis incorporates the concepts of probability and statistics in the evaluation of alternatives. This allows management to determine the probability of success or failure of the project. Two types of sensitivity analyses are presented. The first is referred to as the range approach while the second uses probabilistic concepts to determine the measure of the risk involved. The authors have designed the text to assist individuals to prepare to successfully complete the economics portions of the Fundamentals of Engineering Exam. Table of Contents: Introduction / Interest and the Time Value of Money / Project Evaluation Methods / Service Producing Investments / Income Producing Investments / Determination of Project Cash Flow / Financial Leverage / Basic Statistics and Probability / Sensitivity Analysis · Risk analysis is everywhere - from genetically modified crops, dams, and stem-cell therapy to heartbeat, online predators, inflation, and robbery. This Very Short Introduction examines what science has learned about how people deal with risks, what we can learn through decision theory, and how we can evaluate risk in our own lives. In this new second edition, M. A. Mian has expanded and updated the first volume of Project Economics and Decision Analysis by incorporating new advancements and clarifying concepts to facilitate their understanding. New to the second edition of Project Economics and Decision Analysis, Volume 1 is a section on netback pricing and indexed netback pricing. Additionally, the new edition expands the weighted average cost of capital (WACC) concept for better comprehension and to recognize its weakness in practice. The concept of unit technical cost, also known as long-run marginal cost (LRMC), has been expanded as well to aid with its calculation and application. More than any other book available, Risk Analysis in Engineering and Economics introduces the fundamental concepts, techniques, and applications of the subject in a style tailored to meet the needs of students and practitioners of engineering, science, economics, and finance. Drawing on his extensive experience in uncertainty and risk modeling and analysis, the author leads readers from the fundamental concepts through the theory, applications, and data requirements, sources, and collection. He emphasizes the practical use of the methods presented and carefully examines the limitations, advantages, and disadvantages of each. Case studies that incorporate the techniques discussed offer a practical perspective that helps readers clearly identify and solve problems encountered in practice. If you deal with decision-making under conditions of uncertainty, this book is required reading. The presentation includes more than 300 tables and figures, more than 100 examples, many case studies, and a wealth of end-of-chapter problems. Unlike the classical books on reliability and risk assessment, this book helps you relate underlying concepts to everyday applications and better prepares you to understand and use the methods of risk analysis. The application of option pricing methods, which were initially developed for financially-traded assets, are now often applied to the valuation of options on real assets. Real options, or options on real assets, supplements standard discounted cash flow valuation approaches by including the value of managerial flexibility. Real Option Modeling and Valuation attempts to bridge the gap between theory and practice using the commercially available software program DPL® (Decision Programming Language) and Excel® to provide a decision tree approach to valuation using real options. Companion website: https://sites.google.com/view/real-options
analysis, incorporating risk and uncertainty as applied to capital investments. In the expanded and updated second edition of Volume 2, Mian integrates new advancements and clarifies concepts to facilitate their understanding. Each topic is introduced, followed by a brief discussion related to its application in practice and a solved example. Includes a companion CD with applications, spreadsheets, and tables that expand the practical application of the book's material. Decision Analysis for Management Judgment is unique in its breadth of coverage of decision analysis methods. It covers both the psychological problems that are associated with unaided managerial decision making and the decision analysis methods designed to overcome them. It is presented and explained in a clear, straightforward manner without using mathematical notation. This latest edition has been fully revised and updated and includes a number of changes to reflect the latest developments in the field. It will be useful for those experienced and senior professionals who are charged with authorizing and controlling projects. Recommended. P.F. Rad, Choice Building on the seminal work of Bent Flyvbjerg, this book is a collection of expert contributions that will prove essential to anyone wanting to understand why mega-projects go wrong and how they can be made to work better. Professor Sir Peter Hall, University College London, UK This book offers a refreshing and fascinating look at mega-projects from the perspective of public evaluation and planning. With the changing role of the public sector in planning and implementing large-scale projects and a subsequent strong emergence of private public modes of operation, mega-projects have become a problematic phenomenon. This volume is a major source of information and reference. It provides the reader with unique insights and caveats in mega-projects planning. Peter Nijkamp, VU University Amsterdam, The Netherlands This book enlarges the understanding of decision-making on mega-projects and suggest recommendations for a more effective, efficient and democratic approach. Authors from different scientific disciplines address various aspects of the decision-making process, such as management characteristics and cost benefit analysis, planning and innovation and competition and institutions. The subject matter is highly diverse, but certain questions remain at the forefront. For example, how do we deal with protracted preparation processes, how do we tackle risks and uncertainties, and how can we best divide the risks and responsibilities among the private and public players throughout the different phases of the project? Presenting a state-of-the-art overview, based on experiences and visions of authors from Europe and North America, this unique book will be of interest to practitioners of large-scale project management, politicians, public officials and private organisations involved in mega-project decision-making. It will also appeal to researchers, consultants and students dealing with substantial engineering projects, complex systems, project management and transport infrastructure. Portfolio Decision Analysis: Improved Methods for Resource Allocation provides an extensive, up-to-date coverage of decision analytic methods which help firms and public organizations allocate resources to 'lumpy' investment opportunities while explicitly recognizing relevant financial and non-financial evaluation criteria and the presence of alternative investment opportunities. In particular, it discusses the evolution of these methods, presents new methodological advances and illustrates their use across several application domains. The book offers a many-faceted treatment of portfolio decision analysis (PDA). Among other things, it (i) synthesizes the state-of-play in PDA, (ii) describes novel methodologies, (iii) fosters the deployment of these methodologies, and (iv) contributes to the strengthening of research on PDA. Portfolio problems are widely regarded as the single most important application context of decision analysis, and, with its extensive and unique coverage of these problems, this book is a much-needed addition to the literature. The book also presents innovative treatments of new methodological approaches and their uses in applications. The intended audience consists of practitioners and researchers who wish to gain a good understanding of portfolio decision analysis and insights into how PDA methods can be leveraged in different application contexts. The book can also be employed in courses at the postgraduate level. This comprehensive two-volume set provides all the necessary concepts of capital investment evaluation, capital budgeting, and decision analysis. Mian takes the reader step-by-step through the decision making process, providing comprehensive coverage of all decision analysis tools currently available while outlining how investment decisions are made under different stages of risk. Further, he focuses on practical application, using a straightforward approach with solved 'real-life' examples and solutions, end-of-chapter problems, and illustrations throughout the book. Engineers seek solutions to problems, and the economic viability of each potential solution is normally considered along with the technical merits. This is typically true for the petroleum sector, which includes the global processes of exploration, production, refining, and transportation. Decisions on an investment in any oil or gas field development are made on the basis of its value, which is judged by a combination of a number of economic indicators. Economic Analysis of Oil and Gas Engineering Operations focuses on economic treatment of petroleum engineering operations and serves as a helpful resource for making practical and profitable decisions in oil and gas field development. Reflects major changes over the past decade or so in the oil and gas industry Provides thorough coverage of the use of economic analysis techniques in decision-making in petroleum-related projects Features real-world cases and economic analysis of various engineering problems encountered in petroleum operations Includes principles applicable to other engineering disciplines This work will be of value to practicing engineers and industry professionals, managers, and executives working in the petroleum industry who have the responsibility of planning and decision-making, as well as advanced students in petroleum and chemical engineering studying engineering economics, petroleum economics and policy, project evaluation, and plant design. This textbook presents methodologies and applications associated with multiple criteria decision analysis (MCDA), especially for those students with an interest in industrial engineering. With respect to methodology, the book covers (1) problem structuring methods; (2) methods for ranking multi-dimensional deterministic outcomes including multiattribute value theory, the analytic hierarchy process, the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), and outranking techniques; (3) goal programming; (4) methods for describing preference structures over single and multi-dimensional probabilistic outcomes (e.g., utility functions); (5) decision trees and influence
diagrams; (6) methods for determining input probability distributions for decision trees, influence diagrams, and general simulation models; and (7) the use of simulation modeling for decision analysis. This textbook also offers: · Easy to follow descriptions of how to apply a wide variety of MCDA techniques · Specific examples involving multiple objectives and/or uncertainty/risk of interest to industrial engineers · A section on outranking techniques; this group of techniques, which is popular in Europe, is very rarely mentioned as a methodology for MCDA in the United States · A chapter on simulation as a useful tool for MCDA, including ranking & selection procedures. Such material is rarely covered in courses in decision analysis · Both material review questions and problems at the end of each chapter. Solutions to the exercises are found in the Solutions Manual which will be provided along with PowerPoint slides for each chapter. The methodologies are demonstrated through the use of applications of interest to industrial engineers, including those involving product mix optimization, supplier selection, distribution center location and transportation planning, resource allocation and scheduling of a medical clinic, staffing of a call center, quality control, project management, production and inventory control, and so on. Specifically, industrial engineering problems are structured as classical problems in multiple criteria decision analysis, and the relevant methodologies are demonstrated. Project economic analysis is a tool used by the Asian Development Bank (ADB) to ensure that ADB operations comply with its Charter. The guidelines in this publication are a revised version of the 1997 edition. The revision responds to the changing development context and ADB operational priorities, and aims to address the recommendations of the ADB Quality-at-Entry Assessments for more methodological work on project economic analysis. The revised guidelines provide general principles for the conduct of project economic analysis, and should be read together with handbooks, technical reports, and other reference materials published by ADB dealing with sector-specific project economic analysis in detail. The authors cover two general topics: basic engineering economics and risk analysis in this text. Within the topic of engineering economics are discussions on the time value of money and interest relationships. These interest relationships are used to define certain project criteria that are used by engineers and project managers to select the best economic choice among several alternatives. Projects examined will include both income- and service-producing investments. The effects of escalation, inflation, and taxes on the economic analysis of alternatives are discussed. Risk analysis incorporates the concepts of probability and statistics in the evaluation of alternatives. This allows management to determine the probability of success or failure of the project. Two types of sensitivity analyses are presented. The first is referred to as the range approach while the second uses probabilistic concepts to determine a measure of the risk involved. The authors have designed the text to assist individuals to prepare to successfully complete the economics portions of the Fundamentals of Engineering Exam. Table of Contents: Introduction / Interest and the Time Value of Money / Project Evaluation Methods / Service Producing Investments / Income Producing Investments / Determination of Project Cash Flow / Financial Leverage / Basic Statistics and Probability / Sensitivity Analysis 'The Economics of Project Analysis: A Practitioner's Guide' is written for project practitioners, for instructors in agricultural project economic analysis, and for students of that subject. This guide extends and complements the discussion of project and policy economics contained in the second edition of 'Economic Analysis of Agricultural Projects', by J. Price Gittinger--referred to throughout this volume as Gittinger (1982). ISBN10:0-8213-1751-2 ISBN13:978-0-8213-1751-8 Copyright code : 4e4a3873f48af9163657bd0f557ca0f6