Management Science Modelling International Edition 4th Edition Albright Winston Book

Management Science provides students and business analysts with the technical knowledge and skill needed to develop real expertise in business modeling. The authors cover spreadsheet engineering, management science, and the modeling craft. The text is designed to improve modeling efficiency and modeling effectiveness by focusing on the most important tasks and tools.

Cliff Ragsdale is an innovator of the spreadsheet teaching revolution and is highly regarded in the field of management science. The sixth edition of SPREADSHEET MODELING AND DECISION ANALYSIS retains the elements and philosophy that has made its past editions so successful. This version of SPREADSHEET MODELING AND DECISION ANALYSIS has been updated for use with Microsoft Office Excel 2010. It provides succinct instruction in the most commonly used management science techniques and shows how these tools can be implemented using the most current version of Excel for Windows. This text also focuses on developing both algebraic and spreadsheet modeling skills. Risk Solver Platform replaces Crystal Ball in the sixth edition. Risk Solver Platform includes all of the capabilities of Risk Solver for risk analysis and Monte Carlo simulation, all of the capabilities of Premium solver Platform for optimization, and new capabilities for finding robust optimal decisions using simulation, optimization, stochastic programming, and robust optimization methods. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

MANAGERIAL DECISION MODELING, Revised, International Edition, provides instruction in the most commonly used management science techniques and shows how these tools can be implemented using Microsoft(r) Office Excel(r) 2007 for Windows.

This book gathers the proceedings of the fifteenth International Conference on Management Science and Engineering Management (ICMSEM 2021) held on August 1-4, 2021, at the University of Castilla-La Mancha (UCLM), Toledo, Spain. The proceedings contains theoretical and practical research of decision support systems, complex systems, empirical studies, sustainable development, project management, and operation optimization, showing advanced management concepts and demonstrates substantial interdisciplinary developments in MSEM methods and practical applications. It allows researchers and practitioners in management science and engineering management (MSEM) to share their latest insights and contribution. Meanwhile, it appeals to readers interested in these areas, especially those looking for new ideas and research directions.

Operations Research: 1934-1941," 35, 1, 143-152; "British The goal of the Encyclopedia of Operations Research and Operational Research in World War II," 35, 3, 453-470; Management Science is to provide to decision makers and "U. S. Operations Research in World War II," 35, 6, 910-925; problem solvers in business, industry, government and and the 1984 article by Harold Lardner that appeared in academia a comprehensive overview of the wide range of Operations Research: "The Origin of Operational Research," ideas, methodologies, and synergistic forces that combine to 32, 2, 465-475. form the preeminent decision-aiding fields of operations re search and management science (OR/MS). To this end, we The Encyclopedia contains no entries that define the fields enlisted a distinguished international group of academics of operations research and management science. OR and MS and practitioners to contribute articles on subjects for are often equated to one another. If one defines them by the which they are renowned. methodologies they employ, the equation would probably The editors, working with the Encyclopedia's Editorial stand inspection. If one defines them by their historical Advisory Board, surveyed and divided OR/MS into specific developments and the classes of problems they encompass, topics that collectively encompass the foundations, applica the equation becomes fuzzy. The formalism OR grew out of tions, and emerging elements of this ever-changing field. We the operational problems of the British and U. s. military also wanted to establish the close associations that OR/MS efforts in World War II.

Emphasizes building the most appropriate model possible from the available data. * Major focus is on analysis and communication of results to management. Teaches readers how to conduct a management science study, analyze different situations, break down the steps of problem-solving, write a business report, and effectively communicate study results to management. * A supporting CD-ROM is packaged with every book to include three complete additional chapters, additional cases and problems for every chapter, coverage of key algorithms and derivations, a review of statistics, the complete WINQSB package developed by Yih-Long Chang, and Excel files for every chapter. * Computer Integrated Approach: Use of Excel, WinQSB, and LINDO for windows integrated throughout text for use in solving models.

2014 International Conference on Education and Management Science (ICEMS2014) will be held in Beijing, China on August 19–20, 2014. The main purpose of this conference is to provide a common forum for researchers, scientists, and students from all over the world to present their recent findings, ideas, developments and application in the border areas of Education and Management Science. It will also report progress and development of methodologies, technologies, planning and implementation, tools and standards in information systems. Education is an internal topic. It is a process of delivering knowledge in a basic meaning. Humans are hard to define the actual definition of education. But it is the key point for our society to step forward. Management science is the discipline that adapts the scientific approach for problem solving to help managers making informed decisions. The goal of management science is to recommend the course of action that is expected to yield the best outcome with what is available.

This addition to the ISOR series introduces complementarity models in a straightforward and approachable manner and uses them to carry out an in-depth analysis of energy markets, including formulation issues and solution techniques. In a nutshell, complementarity models generalize: a. optimization problems via their Karush-Kuhn-Tucker conditions b. on-cooperative games in which each player may be solving a separate but related optimization problem with potentially overall system constraints (e.g., market-

clearing conditions) c. conomic and engineering problems that aren't specifically derived from optimization problems (e.g., spatial price equilibria) d. roblems in which both primal and dual variables (prices) appear in the original formulation (e.g., The National Energy Modeling System (NEMS) or its precursor, PIES). As such, complementarity models are a very general and flexible modeling format. A natural question is why concentrate on energy markets for this complementarity approach? s it turns out, energy or other markets that have game theoretic aspects are best modeled by complementarity problems. The reason is that the traditional perfect competition approach no longer applies due to deregulation and restructuring of these markets and thus the corresponding optimization problems may no longer hold. Also, in some instances it is important in the original model formulation to involve both primal variables (e.g., production) as well as dual variables (e.g., market prices) for public and private sector energy planning. Traditional optimization problems can not directly handle this mixing of primal and dual variables but complementarity models can and this makes them all that more effective for decision-makers.

Easy to understand and to the point, MANAGEMENT SCIENCE MODELING, 4th Edition, International Edition uses an active-learning approach and realistic problems to help you understand and take advantage of the power of spreadsheet modeling. With real examples and problems drawn from finance, marketing, and operations research, you will easily come to see how management science applies to your chosen profession and how you can use it on the job. The authors emphasize modeling over algebraic formulations and memorization of particular models. The essentials resource website, whose access is available with every new book, includes links to the following add-ins: the Palisade Decision Tools Suite (@RISK, StatTools, PrecisionTree, TopRank, RISKOptimizer, NeuralTools, and Evolver); and SolverTable, which allows you to do sensitivity analysis. All of these add-ins have been revised for Excel 2010.

Markov chains are a particularly powerful and widely used tool for analyzing a variety of stochastic (probabilistic) systems over time. This monograph will present a series of Markov models, starting from the basic models and then building up to higher-order models. Included in the higher-order discussions are multivariate models, higher-order multivariate models, and higher-order hidden models. In each case, the focus is on the important kinds of applications that can be made with the class of models being considered in the current chapter. Special attention is given to numerical algorithms that can efficiently solve the models. Therefore, Markov Chains: Models, Algorithms and Applications outlines recent developments of Markov chain models for modeling queueing sequences, Internet, re-manufacturing systems, reverse logistics, inventory systems, bio-informatics, DNA sequences, genetic networks, data mining, and many other practical systems.

Management Science Modeling

A key goal of fisheries management is to regulate extractive pressure on a resource so as to ensure social, economic and ecological sustainability. This text provides an accessible entry point for students and professionals to management science as developed in fisheries, in order to facilitate uptake of the latest ideas and methods. Traditional management approaches have relied upon a stock assessment based on existing understanding of resource status and dynamics, and a prediction of the likely future response to a static management proposal. However all such predictions include an inherent degree of uncertainty, and the last few decades have seen the emergence of an adaptive approach that uses feedback control to account for unknown future behaviour. Feedback is achieved via a control rule, which defines a relationship between perceived status of the resource and a management action. Evaluations of such rules usually include computer simulation testing across a broad range of uncertainties, so that an appropriate and robust rule can be selected by stakeholders and managers. The book focuses on this approach, which is usually referred to as Management Strategy Evaluation. The book is enriched by case study examples from different parts of the world, as well as insights into the theory and practice from those actively involved in the science of fisheries management.

"This book examines related research in decision, management, and other behavioral sciences in order to exchange and collaborate on information among business, industry, and government, providing innovative theories and practices in operations research"--Provided by publisher.

This is the Proceedings of the Ninth International Conference on Management Science and Engineering Management (ICMSEM) held from July 21-23, 2015 at Karlsruhe, Germany. The goals of the conference are to foster international research collaborations in Management Science and Engineering Management as well as to provide a forum to present current findings. These proceedings cover various areas in management science and engineering management. It focuses on the identification of management science problems in engineering and innovatively using management theory and methods to solve engineering problems effectively. It also establishes a new management theory and methods based on experience of new management issues in engineering. Readers interested in the fields of management science and engineering management will benefit from the latest cutting-edge innovations and research advances presented in these proceedings and will find new ideas and research directions. A total number of 132 papers from 15 countries are selected for the proceedings by the conference scientific committee through rigorous referee review. The selected papers in the first volume are focused on Intelligent System and Management Science covering areas of Intelligent Systems, Logistics Engineering, Information Technology and Risk Management. The selected papers in the second volume are focused on Computing and Engineering Management covering areas of Computing Methodology, Project Management, Industrial Engineering and Decision Making Systems.

The publication contains a selection of the best double-blind reviewed papers presented, discussed and revised by participants of the 1st International Conference on Value Chain Management in Austria, Steyr, May 2011. The Value Chain Management (VCM) Conference presents scientific insights relevant to management as well as their translation into the practice of management. The conference focus is on the demand chain i.e. sales, production, purchasing, logistics, performance measurement and customer value management. The authors present analytical and conceptual articles as well as empirical studies showing multidisciplinary and intercultural approaches towards solving relevant open problems.

Take full advantage of the power of spreadsheet modeling with the guidance in PRACTICAL MANAGEMENT SCIENCE, 6E, geared entirely to Excel 2016. This edition integrates modeling into all functional areas of business -- finance, marketing, operations management -- using real examples and real data. The book emphasizes applied, relevant learning while presenting the right amount of theory to ensure readers gain a strong foundation. Exercises offer practical, hands-on experience working with the methodologies. The authors focus on modeling rather than algebraic formulations or memorization of particular models. This edition provides new and updated cases as well as a new chapter on data mining. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Introduction to Management Science gives students a strong foundation in how to make decisions and solve complex problems using both quantitative methods and software tools. In addition to extensive examples, problem sets, and cases, the 13th Edition incorporates Excel 2016 and other software resources, developing students' ability to leverage the technology they will use throughout their careers. By practicing these modelling techniques, students gain a useful framework for problem-solving that they can then apply in

the workplace.

This book provides basic tools for learning how to model in mathematical programming, from models without much complexity to complex system models. It presents a unique methodology for the building of an integral mathematical model, as well as new techniques that help build under own criteria. It allows readers to structure models from the elements and variables to the constraints, a basic modelling guide for any system with a new scheme of variables, a classification of constraints and also a set of rules to model specifications stated as logical propositions, helping to better understand models already existing in the literature. It also presents the modelling of all possible objectives that may arise in optimization problems regarding the variables values. The book is structured to guide the reader in an orderly manner, learning of the components that the methodology establishes in an optimization problem. The system includes the elements, which are all the actors that participate in the system, decision activities that occur in the system, calculations based on the decision activities, specifications such as regulations, impositions or actions of defined value and objective criterion, which guides the resolution of the system.

This book aims to demonstrate and detail the pervasive nature of Discrete Optimization. The handbook couples the difficult, critical-thinking aspects of mathematical modeling with the hot area of discrete optimization. It is done with an academic treatment outlining the state-of-the-art for researchers across the domains of the Computer Science, Math Programming, Applied Mathematics, Engineering, and Operations Research. The book utilizes the tools of mathematical modeling, optimization, and integer programming to solve a broad range of modern problems.

This book presents the proceedings of the Seventh International Conference on Management Science and Engineering Management (ICMSEM2013) held from November 7 to 9, 2013 at Drexel University, Philadelphia, Pennsylvania, USA and organized by the International Society of Management Science and Engineering Management, Sichuan University (Chengdu, China) and Drexel University (Philadelphia, Pennsylvania, USA). The goals of the Conference are to foster international research collaborations in Management Science and Engineering Management as well as to provide a forum to present current research findings. The selected papers cover various areas in management science and engineering management, such as Decision Support Systems, Multi-Objective Decisions, Uncertain Decisions, Computational Mathematics, Information Systems, Logistics and Supply Chain Management, Relationship Management, Scheduling and Control, Data Warehousing and Data Mining, Electronic Commerce, Neural Networks, Stochastic Models and Simulation, Fuzzy Programming, Heuristics Algorithms, Risk Control, Organizational Behavior, Green Supply Chains, and Carbon Credits. The proceedings introduce readers to novel ideas on and different problem-solving methods in Management Science and Engineering Management. We selected excellent papers from all over the world, integrating their expertise and ideas in order to improve research on Management Science and Engineering Management.

The fifth edition of this book reflects its continued popularity and standing in the field. It provides a clear guide to the role of modelling and the computer simulation methods used in management science. Readers will find an in-depth coverage of the modelling, computing and statistical aspects of discrete simulation and systems dynamics. Overall the book shows how practical simulation models are built and used, and provides the theory needed to do this. Revisions to this edition include a new chapter on Monte Carlo simulation using spreadsheets, a new look inside discrete simulation software and simulation models in Visual Basic, SIMUL8 and Micro Saint. Further information can be found at: http://www.lancs.ac.uk/staff/smamp/mpsim.html

Operations Research (OR) began as an interdisciplinary activity to solve complex military problems during World War II. Utilizing principles from mathematics, engineering, business, computer science, economics, and statistics, OR has developed into a full fledged academic discipline with practical application in business, industry, government and military. Currently regarded as a body of established mathematical models and methods essential to solving complicated management issues, OR provides quantitative analysis of problems from which managers can make objective decisions. Operations Research and Management Science (OR/MS) methodologies continue to flourish in numerous decision making fields. Featuring a mix of international authors, Operations Research and Management Science Handbook combines OR/MS models, methods, and applications into one comprehensive, yet concise volume. The first resource to reach for when confronting OR/MS difficulties, this text – Provides a single source guide in OR/MS Bridges theory and practice Covers all topics relevant to OR/MS Offers a quick reference guide for students, researchers and practitioners Contains unified and up-to-date coverage designed and edited with non-experts in mind Discusses software availability for all OR/MS techniques Includes contributions from a mix of domestic and international experts The 26 chapters in the handbook are divided into two parts. Part I contains 14 chapters that cover the fundamental OR/MS models and methods. Each chapter gives an overview of a particular OR/MS model, its solution methods and illustrates successful applications. Part II of the handbook contains 11 chapters discussing the OR/MS applications in specific areas. They include airlines, e-commerce, energy systems, finance, military, production systems, project management, quality control, reliability, supply chain management and water resources. Part II ends with a chapter on the future of OR/MS applications.

Introduction to Management Science, 2e offers a unique case study approach and integrates the use of Excel. Each chapter includes a case study that is meant to show the students a real and interesting application of the topics addressed in that chapter. This most recent revision has been thoroughly updated to be more "user-friendly" and more technologically advanced. These changes include, a completely new chapter on the art of modeling with spreadsheets. This unique chapter goes far beyond anything found in other textbooks and are based on the award winning methodologies used by Mark Hillier in his own course. The technology package has also been greatly enhanced to include,

Crystal Ball 2000 (Professional Edition) a Management Science Online Learning Center, and an Excel add-in called Alver Table for performing sensitivity analysis. Crystal Ball is the most popular Excel add-in for computer simulation and includes OptQuest (an optimizer with simulation) as well as a forecasting module. The Management Science Online Learning Center (website) includes several modules that enable students to interactively explore certain management science techniques in depth. Solver Table is an Excel add-in developed by the author to help perform sensitivity analysis systematically, as well as substantially expanded coverage of computer simulation, including Crystal Ball. We now have two chapters on computer simulation instead of one, where the second chapter features the use of Crystal Ball.all.

This work has been selected by scholars as being culturally important, and is part of the knowledge base of civilization as we know it. This work was reproduced from the original artifact, and remains as true to the original work as possible. Therefore, you will see the original copyright references, library stamps (as most of these works have been housed in our most important libraries around the world), and other notations in the work. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. As a reproduction of a historical artifact, this work may contain missing or blurred pages, poor pictures, errant marks, etc. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Easy to understand and to the point--and without any jargon--PRACTICAL MANAGEMENT SCIENCE uses an active-learning approach and realistic problems to help you understand and take advantage of the power of spreadsheet modeling. With real examples and problems drawn from finance, marketing, and operations research, you'll easily come to see how management science applies to your chosen profession and how you can use it on the job. The authors emphasize modeling over algebraic formulations and memorization of particular models. The CD-ROMs packaged with every new book include the following useful add-ins: the Palisade Decision Tools Suite (@RISK, StatTools, PrecisionTree, TopRank, and RISKOptimizer); Solver Table, which allows you to do sensitivity analysis; and Premium Solver for Education from Frontline Systems. All of these add-ins have been revised for Excel 2007. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

"Combat Modeling" is a systematic learning resource and reference text for the quantitative analysis of combat. After a brief overview, authors Washburn and Kress present individual chapters on shooting without feedback; shooting with feedback; target defense; attrition models; game theory and wargames; search; unmanned aerial vehicles; and terror and insurgency. Three appendices provide a review of basic probability concepts, probability distributions, and Markov models; an introduction to optimization models; and a discussion of Monte-Carlo simulations. Drawing on their many years of experience at the Naval Postgraduate School in Monterey, California, Washburn and Kress have created a reference that will provide the tools and techniques for analysts involved in the underpinnings of combat decisions. This is a book that can be used as a military manual, reference book, and textbook for military courses on this vital subject.

This book is about prescriptive analytics. It provides business practitioners and students with a selected set of management science and optimization techniques and discusses the fundamental concepts, methods, and models needed to understand and implement these techniques in the era of Big Data. A large number of management science models exist in the body of literature today. These models include optimization techniques or heuristics, static or dynamic programming, and deterministic or stochastic modeling. The topics selected in this book, mathematical programming and simulation modeling, are believed to be among the most popular management science tools, as they can be used to solve a majority of business optimization problems. Over the years, these techniques have become the weapon of choice for decision makers and practitioners when dealing with complex business systems.

2013 International Conference on Advanced Education Technology and Management Science(AETMS2013) aims to provide a forum for accessing to the most up-to-date and authoritative knowledge from both Education Technology and Management Science. AETMS2013 features unique mixed topics of Education technology, Teaching theory, psychology, Sport Pedagogy, Management science and engineering, Finance and economics and so on. The goal of this conference is to bring researchers, engineers, and students to the areas of Education Technology and Management Science to share experiences and original research contributions on those topics.

Now in its fifth edition, Powell and Baker's Business Analytics: The Art of Modeling with Spreadsheets provides students and business analysts with the technical knowledge and skill needed to develop real expertise in business modeling. In this book, the authors cover spreadsheet engineering, management science, and the modeling craft. The briefness & accessibility of this title offers opportunities to integrate other materials –such as cases -into the course. It can be used in any number of courses or departments where modeling is a key skill.

Insightful modelling of dynamic systems for better business strategy The business environment is constantly changing and organisations need the ability to rehearse alternative futures. By mimicking the interlocking operations of firms and industries, modelling serves as a 'dry run' for testing ideas, anticipating consequences, avoiding strategic pitfalls and improving future performance. Strategic Modelling and Business Dynamics is an essential guide to credible models; helping you to understand modelling as a creative process for distilling and communicating those factors that drive business success and sustainability. Written by an internationally regarded authority, the book covers all stages

of model building, from conceptual to analytical. The book demonstrates a range of in-depth practical examples that vividly illustrate important or puzzling dynamics in firm operations, strategy, public policy, and everyday life. This updated new edition also offers a rich Learners' website with models, articles and videos, as well as a separate Instructors' website resource, with lecture slides and other course materials (see Related Websites/Extra section below). Together the book and websites deliver a powerful package of blended learning materials that: Introduce the system dynamics approach of modelling strategic problems in business and society Include industry examples and public sector applications with interactive simulators and contemporary visual modelling software Provide the latest state-of-the-art thinking, concepts and techniques for systems modelling The comprehensive Learners' website features models, microworlds, journal articles and videos. Easy-to-use simulators enable readers to experience dynamic complexity in business and society. Like would-be CEOs, readers can re-design operations and then re-simulate in the quest for well-coordinated strategy and better performance. The simulators include a baffling hotel shower, a start-up low-cost airline, an international radio broadcaster, a diversifying tyre maker, commercial fisheries and the global oil industry. "Much more than an introduction, John Morecroft's Strategic Modelling and Business Dynamics uses interactive 'mini-simulators and microworlds' to create an engaging and effective learning environment in which readers, whatever their background, can develop their intuition about complex dynamic systems." John Sterman, Jay W. Forrester Professor of Management, MIT Sloan School of Management "Illustrated by examples from everyday life, business and policy, John Morecroft expertly demonstrates how systems thinking aided by system dynamics can improve our understanding of the world around us." Stewart Robinson, Associate Dean Research, President of the Operational Research Society, Professor of Management Science, School of Business and Economics, Loughborough University

With over 30 years' experience as a management teacher and consultant, Mike Pidd provides the tools for thinking that will help us to think through the consequences of decisions before we act. The third edition of Tools for Thinking builds on the successes of the previous two editions. It creates a bridge between the soft and hard (Operations Research) OR schools of thought and provides an empirically based framework in which to place them. Focusing on modelling as an activity, rather than on models and techniques, Mike Pidd shows how models can be employed to explore possible future scenarios and to make sense of managerial vision. This third edition has been fully revised and updated without changing its focus. It features a new chapter on Decision Analysis and includes up-to-date examples using popular softwares, such as Precision Tree, @Risk and Micro Saint Sharp, to illustrate how these help in developing and using management science models as tools for thinking.

Due to its societal and economic relevance, Project Management (PM) has become an important discipline and a concept critical to modern organizations, public and private. PM as an academic discipline is discussed both in Management Science and in Operations Research. Management Science tends to focus on quantitative tools and the soft skills necessary to manage projects successfully. Operations Research gives the essential scientific contribution to the success of project management through the development of models and algorithms. In Management Science, Operations Research and Project Management, José Ramón San Cristóbal Mateo fills the gap between scientific research and the practical application of that research. Project managers need formal training in decision-making but sometimes, they do not have an in-depth knowledge of Operations Research or they lack the necessary theoretical background. This book, with its focus on the quantitative models of Operations Research and Management Science applied to Project Management, provides project managers with the tools and methods necessary to manage projects successfully. Project managers operate in a complex global environment, in which numerous factors need to be considered, such as minimizing total project costs, meeting contracted dates, and ensuring that activities achieve certain quality levels. The focus here on the application of quantitative models of Operations Research and Management Science applied to Project Management provides them with the tools and methods necessary to make sound decisions.

The third part applies quantitative techniques to problems in finance and economics, such as hedging of options, inflation targeting, and equilibrium asset pricing. The fourth part considers a series of problems in production systems. Optimization methods are put forward to provide optimal policies in areas such as inventory management, transfer-line, flow-shop and other industrial problems. The last part covers game theory. Chapters range from theoretical issues, to applications in politics and interactions in franchising systems.

Volume 20 of Applications of Management Science focuses on the application of management science methodologies, data envelopment analysis and multi-criteria decision making.

This book includes a collection of selected papers presented at the International Conference on Modelling and Simulation in Engineering, Economics, and Management, held at the Faculty of Economics and Business at the University of Girona, Spain, 28-29 June 2018.The conference was organized by the Association for the Advancement of Modelling and Simulation Techniques in Enterprises (AMSE) and the University of Girona with the aim of promoting research in the field of modelling, simulation and management science. This book presents original research studies related to fuzzy logic, soft computing and uncertainty, as well as a number of papers in the field of bibliometrics in social sciences. Presenting new advances in these areas, with a special focus on management, economics and social sciences. It is of great interest to researchers and Ph.D. students working in the field of fuzzy logic, soft computing, uncertainty and bibliometrics.

Models & Methods for Project Selection systematically examines in this book treatment the latest work in the field of project selection modeling. The models presented are drawn from mathematical programming, decision theory, and finance. These models are examined in two categorical streams: the management science stream and the financial model stream. The book describes the assumptions and limitations of each model and provides appropriate solution methodologies. Its organization follows three main themes: *Criteria for Choice: Chapters 1-3 investigate the effect of the choice of optimization criteria on the results of the portfolio optimization problem. *Risk and Uncertainty: Chapters 4-7 deal with uncertainty in the project selection problem. *Non-Linearity and Interdependence: These chapters deal with problems of non-linearity and interdependence as they arise in the project selection problem. Chapters 8, 9 and 10

present solution methodologies, which can be used to solve these most general project selection models.

This monograph provides a new perspective on business modeling in small and medium-sized enterprises (SMEs). It builds on the theoretical framework on innovation and revisits the Zahra and George (2002) model on absorptive capacity and other related works, such as the open innovation approach initiated by Chesbrough (2003). It also introduces a new 'open innovation bridge – a Tangram model' approach to business models that identifies the critical elements of the transactive structure of open innovation business models, especially, in the context of SMEs. The uniqueness of this book lies in the author's development of a gamification perspective and a tool to design open innovation business models.

This book gathers the proceedings of the 14th International Conference on Management Science and Engineering Management (ICMSEM 2020). Held at the Academy of Studies of Moldova from July 30 to August 2, 2020, the conference provided a platform for researchers and practitioners in the field to share their ideas and experiences. Covering a wide range of topics, including hot management issues in engineering science, the book presents novel ideas and the latest research advances in the area of management science and engineering management. It includes both theoretical and practical studies of management science applied in computing methodology, highlighting advanced management concepts, and computing technologies for decision-making problems involving large, uncertain and unstructured data. The book also describes the changes and challenges relating to decision-making procedures at the dawn of the big data era, and discusses new technologies for analysis, capture, search, sharing, storage, transfer and visualization, as well as advances in the integration of optimization, statistics and data mining. Given its scope, it will appeal to a wide readership, particularly those looking for new ideas and research directions.