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NXZH6B - BURNS ATKINSON

Decision & Control in Management Science analyzes emerging decision problems in the management and engineering sciences. It is divided into five parts. The first part explores methodological issues involved in the optimization of deterministic and stochastic dynamical systems. The second part describes approaches to the model energy and environmental systems and draws policy implications related to the mitigation of pollutants. 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. Decision & Control in Management Science is an excellent reference covering methodological issues and applications in operations research, optimal control, and dynamic games.

Due to its societal and economic relevance, Project Management (PM) has become an important discipline and a con-

cept 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.

This text combines the market leading writing and presentation skills of Bill Stevenson with integrated, thorough, Excel modeling from Ceyhun Ozgur. Professor Ozgur teaches Management Science, Operations, and Statistics using Excel, at the undergrad and MBA levels at Valparaiso University --and Ozgur developed and tested all examples, problems and cases with his students. The authors have written this text for students who have no significant mathematics training and only the most elementary experience with Excel.

For undergraduate courses in Management Science. A logical, step-by-step approach to complex problem-solving Using simple, straightforward examples to present complex mathematical concepts, Introduction to Management Science gives students a strong foundation in how to logically approach decision-making problems.

Sample problems are used liberally throughout the text to facilitate the learning process and demonstrate different quantitative techniques. Management Science presents modeling techniques that are used extensively in the business world and provides a useful framework for problem-solving that students can apply in the workplace. The Twelfth Edition focuses on the latest technological advances used by businesses and organizations for solving problems and leverages the latest versions of Excel 2013, Excel QM, TreePlan, Crystal Ball, Microsoft Project 2010, and QM for Windows.

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.

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.

This is the Proceedings of the Ninth International Conference on Management Science and Engineering Management (ICM-SEM) 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.

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, complementari-

ty 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.

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.

This is the Proceedings of the Eighth International Conference on Management Science and Engineering Management (ICMSEM) held from July 25 to 27, 2014 at Universidade Nova de Lisboa, Lisbon, Portugal and organized by International Society of Management Science and Engineering Management (ISMSEM), Sichuan University (Chengdu, China) and Universidade Nova de Lisboa (Lisbon, Portugal). 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. A total number of 138 papers from 14 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, Decision Support Systems, Manufacturing and Supply Chain Management.

System Assurances: Modeling and Management updates on system assurance and performance methods using advanced analytics and understanding of software reliability growth modeling from today's debugging team's point-of-view, along with information on preventive and predictive maintenance and the efficient use of testing resources. The book presents the rapidly growing application areas of systems and

software modeling, including intelligent synthetic characters, human-machine interface, menu generators, user acceptance analysis, picture archiving and software systems. Students, research scholars, academicians, scientists and industry practitioners will benefit from the book as it provides better insights into modern related global trends, issues and practices. Provides software reliability modeling, simulation and optimization Offers methodologies, tools and practical applications of reliability modeling and resources allocation Presents cost modeling and optimization associated with complex systems

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 re-

lated 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.

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.

Based on many years of applied research, modeling and educating future decision makers, the authors have selected the critical set of mathematical modeling skills for decision analysis to include in this book. The book focuses on the model formulation and modeling building skills, as well as the technology to support decision analysis. The authors cover many of the main techniques that have been incorporated into their three-course sequence in mathe-

matical modeling for decision making in the Department of Defense Analysis at the Naval Postgraduate School. The primary objective of this book is illustrative in nature. It begins with an introduction to mathematical modeling and a process for formally thinking about difficult problems, illustrating many scenarios and illustrative examples. The book incorporates the necessary mathematical foundations for solving these problems with military applications and related military processes to reinforce the applied nature of the mathematical modeling process.

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 be-

lieved 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.

The Handbook is a comprehensive research reference that is essential for anyone interested in conducting research in supply chain. Unique features include: -A focus on the intersection of quantitative supply chain analysis and E-Business, -Unlike other edited volumes in the supply chain area, this is a handbook rather than a collection of research papers. Each chapter was written by one or more leading researchers in the area. These authors were invited on the basis of their scholarly expertise and unique insights in a particular sub-area, -As much attention is given to looking back as to looking forward. Most chapters discuss at length future research needs and research directions from both theoretical and practical perspectives, -Most chapters describe in detail the quantitative models used for analysis and the theoretical underpinnings; many examples

and case studies are provided to demonstrate how the models and the theoretical insights are relevant to real situations, -Coverage of most state-of-the-art business practices in supply chain management.

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.

Now in its third edition, Management Science helps business professionals gain the essential skills needed to develop real expertise in business modeling. The biggest change in the text is the conversion of software from Crystal Ball to Risk Solver to reflect changes in the field. More coverage of management science topics has been added. Broader coverage of Excel demons-

trates how to create models. Additional open-ended case studies that are less structured have also been included along with new exercises. These changes will help business professionals learn how to apply the information in the field.

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.

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.

"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.

At first glance, this might appear to be a book on mathematics, but it is really intended for the practical engineer who wishes to gain greater control of the multidimensional mathematical models which are increasingly an important part of his environment. Another feature of the book is that it attempts to balance left- and right-brain perceptions; the author has noticed that many graph theory books are disturbingly light on actual topological pictures of their material. One thing that this book is not is a depiction of the Theory of Constraints, as defined by Eliyahu Goldratt in the 1980's. Constraint Theory was originally defined by the author in his PhD dissertation in 1967 and subsequent papers written over the following decade. It strives to employ more of a mathematical foundation to complexity than the Theory of Constraints. This merely attempts to differentiate this book from Goldratt's work, not demean his efforts. After all, the main body of work in the field of 1 Systems Engineering is still largely qualitative .

This book reviews operations research theory, applications and practice in airline planning and operations. It examines the business and technical landscape, details best practices, and identifies open questions and areas for future research.

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.

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.

2014 International Conference on Education and Management Science (ICEM-

S2014) 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 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.

The proceedings consist of 34 papers which have been submitted to the 4th international conference on Modelling, Computation & Optimization in Information Systems and Management Science (MCO 2021) held on 11-13 December, 2021 at Hanoi, Vietnam. The book is composed of 3 parts: Optimization of complex systems - models and methods, Machine Learning - algorithms and applications, and Cryptography. All chapters in the books discuss theoretical and algorithmic as well as practical issues connected with modelling, computation & optimization in Information Systems and Management Science. Researchers and practitioners in related areas will find a wealth of inspiring ideas and useful tools & techniques for their own work.

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.

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 em-

phasize 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.

Most books on inventory theory use the item approach to determine stock levels, ignoring the impact of unit cost, echelon location, and hardware indenture. Optimal Inventory Modeling of Systems is the first book to take the system approach to inventory modeling. The result has been dramatic reductions in the resources to operate many systems - fleets of aircraft, ships, telecommunications networks, electric utilities, and the space station. Although only four chapters and appendices are totally new in this edition, extensive revisions have been made in all chapters, adding numerous worked-out examples. Many new applications have been added including commercial airlines, experience gained during Desert Storm, and adoption of the Windows interface as a standard for personal computer models.

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.

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.

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

More than forty years have passed since the early attempts to model projects. A large domain of theoretical developments has grown producing a high number of analytical and numerical results, but it seems that the main model is still the same: the concept of project network. This concept has come to represent the two major features underlying the notion of a project: the sequential and the competitive nature of its components, the project's activities. Actually, the sequential property defines the structure of the project and the competitive nature stems from the use of common resources (facilities, goods, equip-

ment, management, etc.) to carry out the different activities. However, significant advances have been achieved in project modelling, allowing the production of much more powerful results: A. the concept of precedence and the description of activities has been generalized to produce a wide range of realistic representation of projects. B. the stochastic study of the features of projects such as the duration and cost of their activities is carried out by several analytical and numerical models, allowing experimental and forecasting analyses. C. the allocation of resources can be now studied for more complex situations and restrictions. D. the financial description of projects is more accurately studied and its optimization is thoroughly pursued. E. the assessment and the evaluation of projects now can be studied within the framework of multicriteria decision theory considering multiple perspectives and supporting the project manager to select the most appropriate compromises between risk, time and expected gains.