

Averill M Law 4th Edition

Recognized as the definitive reference, this handbook brings together leading experts from multiple psychological subdisciplines to examine one of today's most dynamic areas of research. Coverage encompasses the biological and neuroscientific underpinnings of emotions, as well as developmental, social and personality, cognitive, and clinical perspectives. The volume probes how people understand, experience, express, and

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*perceive affective phenomena and explores connections to behavior and health across the lifespan. Concluding chapters present cutting-edge work on a range of specific emotions. Illustrations include 10 color plates. New to This Edition *Chapters on the mechanisms, processes, and influences that contribute to emotions (such as genetics, the brain, neuroendocrine processes, language, the senses of taste and smell). *Chapters on emotion in adolescence and older age, and in neurodegenerative dementias. *Chapters on*

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*facial expressions and emotional body language. *Chapters on stress, health, gratitude, love, and empathy. *Many new authors and topics; extensively revised with the latest theoretical and methodological innovations. A Choice Outstanding Academic Title*

A crucial step during the design and engineering of communication systems is the estimation of their performance and behavior; especially for mathematically complex or highly dynamic systems network simulation is particularly useful. This

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book focuses on tools, modeling principles and state-of-the art models for discrete-event based network simulations, the standard method applied today in academia and industry for performance evaluation of new network designs and architectures. The focus of the tools part is on two distinct simulations engines: OmNet++ and ns-3, while it also deals with issues like parallelization, software integration and hardware simulations. The parts dealing with modeling and models for network simulations are split into a wireless

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section and a section dealing with higher layers. The wireless section covers all essential modeling principles for dealing with physical layer, link layer and wireless channel behavior. In addition, detailed models for prominent wireless systems like IEEE 802.11 and IEEE 802.16 are presented. In the part on higher layers, classical modeling approaches for the network layer, the transport layer and the application layer are presented in addition to modeling approaches for peer-to-peer networks and topologies of

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networks. The modeling parts are accompanied with catalogues of model implementations for a large set of different simulation engines. The book is aimed at master students and PhD students of computer science and electrical engineering as well as at researchers and practitioners from academia and industry that are dealing with network simulation at any layer of the protocol stack. Building on the strengths of the Sourcebook on Public Law, this book has been comprehensively revised to take

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account of the radical programme of constitutional reform introduced by the Labour Government since 1997.

This book provides a balanced and integrated presentation of modelling and simulation activity for both Discrete Event Dynamic Systems (DEDS) and Continuous Time Dynamic Systems (CYDS). The authors establish a clear distinction between the activity of modelling and that of simulation, maintaining this distinction throughout. The text offers a novel project-oriented approach for

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developing the modelling and simulation methodology, providing a solid basis for demonstrating the dependency of model structure and granularity on project goals. Comprehensive presentation of the verification and validation activities within the modelling and simulation context is also shown.

*The Return of the Avatar Queen
Critical Thinking and Contemporary
Applications, Sixth Edition*

Simulation Modeling and Analysis

Multiobjective Scheduling by Genetic

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Algorithms

An Anthology

Stalin's Secret Agents

Wafer Fabrication

A primary source examination of the infiltration of Stalin's Soviet intelligence network by members of the American government during World War II reveals the dictator's dubious partnerships with such top-level figures as Vice President Henry Wallace and chief advisor Harry Hopkins. Co-written by the author of *Blacklisted by History*.

The Second Edition of *Content Analysis: An Introduction to Its Methodology* is a definitive

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sourcebook of the history and core principles of content analysis as well as an essential resource for present and future studies. The book introduces readers to ways of analyzing meaningful matter such as texts, images, voices – that is, data whose physical manifestations are secondary to the meanings that a particular population of people brings to them. Organized into three parts, the book examines the conceptual and methodological aspects of content analysis and also traces several paths through content analysis protocols. The author has completely revised and updated the Second Edition, integrating new information on

computer-aided text analysis. The book also includes a practical guide that incorporates experiences in teaching and how to advise academic and commercial researchers. In addition, Krippendorff clarifies the epistemology and logic of content analysis as well as the methods for achieving its aims. Intended as a textbook for advanced undergraduate and graduate students across the social sciences, *Content Analysis, Second Edition* will also be a valuable resource for practitioners in a variety of disciplines. *Quantitative Intelligence Analysis* describes the model-based method of intelligence analysis that

represents the analyst's mental models of a subject, as well as the analyst's reasoning process exposing what the analyst believes about the subject, and how they arrived at those beliefs and converged on analytic judgments. It includes: Specific methods of explicitly representing the analyst's mental models as computational models; dynamic simulations and interactive analytic games; the structure of an analyst's mental model and the theoretical basis for capturing and representing the tacit knowledge of these models explicitly as computational models detailed description of the use of these models in rigorous, structured analysis of difficult targets;

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model illustrations and simulation descriptions; the role of models in support of collection and operations; case studies that illustrate a wide range of intelligence problems; And a recommended curriculum for technical analysts.

The fourth edition of Constitutional and Administrative Law: Text with Materials provides a wealth of essential materials drawn from a wide range of sources and integrated with lively commentary. It enables students to gain a full understanding of public law by explaining the context of its historical development and current political climate.

Simio and Simulation

Quantitative Intelligence Analysis

Programming Using the MathCW Portable Software
Library

Automatic Material Handling System

An Outline of Law and Procedure in Representation
Cases

The Subversion of Roosevelt's Government

The Mathematical-Function Computation Handbook

Simulation Modeling and Analysis

**As business modeling becomes mainstream,
every year more and more companies and
government agencies are creating models of**

their businesses. But creating good business models is not a simple endeavor. Business modeling requires new skills. Written by two business modeling experts, this book shows you how to make your business modeling efforts successful. It provides in-depth coverage of each of the four distinct business modeling disciplines, helping you master them all and understand how to effectively combine them. It also details best practices for working with subject matter experts. And it shows how to develop models, and then

analyze, simulate, and deploy them. This is essential, authoritative information that will put you miles ahead of everyone who continues to approach business modeling haphazardly. * Provides in-depth coverage of the four business modeling disciplines: process modeling, motivation modeling, organization modeling, and rules modeling. * Offers guidance on how to work effectively with subject matter experts and how to run business modeling workshops. * Details today's best practices for building effective business

models, and describes common mistakes that should be avoided. * Describes standards for each business modeling discipline. * Explains how to analyze, simulate, and deploy business models. * Includes examples both from the authors' work with clients and from a single running example that spans the book.

Written in a conversational style that transforms complex ideas into accessible ones, this international best-seller provides an interdisciplinary review of the theories and research in

cross-cultural psychology. The book's unique critical thinking framework, including Critical Thinking boxes, helps to develop analytical skills. Exercises interspersed throughout promote active learning and encourage class discussion. Case in Point sections review controversial issues and opinions about behavior in different cultural contexts. Cross-Cultural Sensitivity boxes underscore the importance of empathy in communication. Numerous applications better prepare students for working in

various multicultural contexts such as teaching, counseling, health care, and social work. The dynamic author team brings a diverse set of experiences in writing this book. Eric Shiraev was raised in the former Soviet Union and David Levy is from Southern California. Sensation, perception, consciousness, intelligence, human development, emotion, motivation, social perception, interaction, psychological disorders, and applied topics are explored from cross-cultural perspectives. New to the 6th Edition: Over

200 recent references, particularly on studies of non-western regions such as the Middle East, Africa, Asia, & Latin America as well as the US and Europe. New chapter on personality and the self with an emphasis on gender identity. New or revised chapter opening vignettes that draw upon current events. More examples related to the experiences of international students in the US and indigenous people. Many more figures and tables that appeal to visual learners. New research on gender, race, religious

beliefs, parenting styles, sexual orientation, ethnic identity and stereotypes, conflict resolution, immigration, intelligence, physical abuse, states of consciousness, DSM-5, cultural customs, evolutionary psychology, treatment of psychological disorders, and acculturation. Revised methodology chapter with more attention to issues related specifically to cross-cultural research and more on qualitative and mixed methods. A companion website at www.routledge.com/9781138668386 where

instructors will find a test bank containing multiple choice, true and false, short answer, and essay questions and answers for each chapter, and a complete set of tables and figures from the text; and students will find chapter outlines, flashcards of key terms, and links to further resources and the authors' Facebook page. Intended as a text for courses on cross-cultural psychology, multicultural psychology, cultural psychology, cultural diversity, and the psychology of ethnic groups and a resource

for practitioners, researchers, and educators who work in multicultural environments.

Multiobjective Scheduling by Genetic Algorithms describes methods for developing multiobjective solutions to common production scheduling equations modeling in the literature as flowshops, job shops and open shops. The methodology is metaheuristic, one inspired by how nature has evolved a multitude of coexisting species of living beings on earth. Multiobjective flowshops, job shops

and open shops are each highly relevant models in manufacturing, classroom scheduling or automotive assembly, yet for want of sound methods they have remained almost untouched to date. This text shows how methods such as Elitist Nondominated Sorting Genetic Algorithm (ENGA) can find a bevy of Pareto optimal solutions for them. Also it accents the value of hybridizing Gas with both solution-generating and solution-improvement methods. It envisions fundamental research into such methods, greatly strengthening

the growing reach of metaheuristic methods. This book is therefore intended for students of industrial engineering, operations research, operations management and computer science, as well as practitioners. It may also assist in the development of efficient shop management software tools for schedulers and production planners who face multiple planning and operating objectives as a matter of course.

Chandrea

Second in the Series of Sesquiannual

Symposia

Principles, Patterns, and Applications

Discrete Event Simulation in Using

Excel/VBA, Second Edition

Simulation Modeling Handbook

Cumulative Book Index

Engineering Statistics Demystified

Offers comprehensive coverage of discrete-event simulation, emphasizing and describing the procedures used in operations research - methodology, generation and testing of random numbers, collection and analysis of input data, verification of simulation models and analysis of

output data.

Since the publication of the first edition in 1982, the goal of Simulation Modeling and Analysis has always been to provide a comprehensive, state-of-the-art, and technically correct treatment of all important aspects of a simulation study. The book strives to make this material understandable by the use of intuition and numerous figures, examples, and problems. It is equally well suited for use in university courses, simulation practice, and self study. The book is widely regarded as the "bible" of simulation and now has more than 100,000 copies in print. The

book can serve as the primary text for a variety of courses; for example: *A first course in simulation at the junior, senior, or beginning-graduate-student level in engineering, manufacturing, business, or computer science (Chaps. 1 through 4, and parts of Chaps. 5 through 9). At the end of such a course, the students will be prepared to carry out complete and effective simulation studies, and to take advanced simulation courses. *A second course in simulation for graduate students in any of the above disciplines (most of Chaps. 5 through 12). After completing this course, the student should

be familiar with the more advanced methodological issues involved in a simulation study, and should be prepared to understand and conduct simulation research. *An introduction to simulation as part of a general course in operations research or management science (part of Chaps. 1, 3, 5, 6, and 9).

Emphasises on contemporary applications and an intuitive problem-solving approach that helps students discover the exciting potential of chemical science. This book incorporates fresh applications from the three major areas of modern research: materials, environmental

chemistry, and biological science.

Ethics in Practice, Second Edition is a comprehensive collection of more than 60 new, newly-revised, and classic essays on fourteen contemporary moral questions. Though the selection of essays, organization of sections, and incisive general and section introductions, this book integrates ethical theory and the discussion of practical moral problems. Visit the volume's web page at: <http://www.stpt.usf.edu/hhl/papers/ethics.in.practice.2nd.htm> Further web resources for the volume can be found here: <http://www.stpt.usf.edu/hhl/eip/>

The Beautiful Land

The Handbook of Communication Skills

Theory and Management of Strabismus

Constitutional and Administrative Law

Six Friends and the World They Made

Content Analysis

Prominent Families of New York

This highly comprehensive handbook provides a substantial advance in the computation of elementary and special functions of mathematics, extending the function coverage of major programming

languages well beyond their international standards, including full support for decimal floating-point arithmetic. Written with clarity and focusing on the C language, the work pays extensive attention to little-understood aspects of floating-point and integer arithmetic, and to software portability, as well as to important historical architectures. It extends support to a future 256-bit, floating-point format offering 70 decimal digits

of precision. Select Topics and Features: references an exceptionally useful, author-maintained MathCW website, containing source code for the book's software, compiled libraries for numerous systems, pre-built C compilers, and other related materials; offers a unique approach to covering mathematical-function computation using decimal arithmetic; provides extremely versatile appendices for interfaces to numerous other languages: Ada, C#, C++,

Fortran, Java, and Pascal; presupposes only basic familiarity with computer programming in a common language, as well as early level algebra; supplies a library that readily adapts for existing scripting languages, with minimal effort; supports both binary and decimal arithmetic, in up to 10 different floating-point formats; covers a significant portion (with highly accurate implementations) of the U.S National Institute of Standards and

Technology's 10-year project to codify mathematical functions. This highly practical text/reference is an invaluable tool for advanced undergraduates, recording many lessons of the intermingled history of computer hardware and software, numerical algorithms, and mathematics. In addition, professional numerical analysts and others will find the handbook of real interest and utility because it builds on research by the

mathematical software community over the last four decades.

Enjoy learning a key technology.

Undergraduates and beginning graduates in both first and second simulation courses have responded positively to the approach taken in this text, which illustrates simulation principles using the popular Simio product. This economy version substitutes grayscale interior graphics to keep costs low for students. Content: This textbook

explains how to use simulation to make better business decisions in application domains from healthcare to mining, heavy manufacturing to supply chains, and everything in between. It is written to help both technical and non-technical users better understand the concepts and usefulness of simulation. It can be used in a classroom environment or in support of independent study. Modern software makes simulation more useful and

accessible than ever and this book illustrates simulation concepts with Simio, a leader in simulation software. Author Statement: This book can serve as the primary text in first and second courses in simulation at both the undergraduate and beginning-graduate levels. It is written in an accessible tutorial-style writing approach centered on specific examples rather than general concepts, and covers a variety of applications including an

international flavor. Our experience has shown that these characteristics make the text easier to read and absorb, as well as appealing to students from many different cultural and applications backgrounds. A first simulation course would probably cover Chapter 1 through 8 thoroughly, and likely Chapters 9 and 10, particularly for upper class or graduate level students. For a second simulation course, it might work to skip or

quickly review Chapters 1-3 and 6, thoroughly cover all other chapters up to Chapter 10, and use Chapter 11 as reinforcing assignments. The text or components of it could also support a simulation module of a few weeks within a larger survey course in programs without a stand-alone simulation course (e.g., MBA). For a simulation module that's part of a larger survey course, we recommend concentrating on Chapters 1, 4, and 5, and then perhaps lightly

touch on Chapters 7 and 8. The extensibility introduced in Chapter 10 could provide some interesting project work for a graduate student with some programming background, as it could be easily linked to other research topics. Likewise Appendix A could be used as the lead-in to some advanced study or research in the latest techniques in simulation-based planning and scheduling. Supplemental course material is also available on-line.

Third Edition: The new third edition adds sections on Randomness in Simulation, Model Debugging, and Monte Carlo simulation. In addition, the coverage of animation, input analysis and output analysis has been significantly expanded. There is a new appendix on simulation-based scheduling, end-of-chapter problems have been improved and expanded, and we have incorporated many reader suggestions. We have reorganized the

material for improved flow, and have updates throughout the book for many of the new Simio features recently added. A new format better supports our e-book users, and a new publisher supports significant cost reduction for our readers.

A captivating blend of personal biography and public drama, The Wise Men introduces the original best and brightest, leaders whose outsized personalities and actions brought order

to postwar chaos: Averell Harriman, the freewheeling diplomat and Roosevelt's special envoy to Churchill and Stalin; Dean Acheson, the secretary of state who was more responsible for the Truman Doctrine than Truman and for the Marshall Plan than General Marshall; George Kennan, self-cast outsider and intellectual darling of the Washington elite; Robert Lovett, assistant secretary of war, undersecretary of state, and secretary of defense

throughout the formative years of the Cold War; John McCloy, one of the nation's most influential private citizens; and Charles Bohlen, adroit diplomat and ambassador to the Soviet Union.

Takahiro O'Leary has a very special job... ..working for the Axon Corporation as an explorer of parallel timelines—as many and as varied as anyone could imagine. A great gig—until information he brought back gave Axon the means to

maximize profits by changing the past, present, and future of this world. If Axon succeeds, Tak will lose Samira Moheb, the woman he has loved since high school—because her future will cease to exist. A veteran of the Iraq War suffering from post-traumatic stress disorder, Samira can barely function in her everyday life, much less deal with Tak's ravings of multiple realities. The only way to save her is for Tak to use the time

travel device he “borrowed” to transport them both to an alternate timeline. But what neither Tak nor Axon knows is that the actual inventor of the device is searching for a timeline called the Beautiful Land—and he intends to destroy every other possible present and future to find it. The switch is thrown, and reality begins to warp—horribly. And Tak realizes that to save Sam, he must save the entire world...

***Applied Analytic Models, Simulations,
and Games***

***Proceedings of the Technology and the
Mine Problem Symposium***

***A Practical Guide to Realizing Business
Value***

Design of Flexible Production Systems

Handbook of Emotions, Fourth Edition

Infection Biology, Vaccination,

Clinical Management

The first edition of this book was the first text to be written

on the Arena software, which is a very popular simulation modeling software. What makes this text the authoritative source on Arena is that it was written by the creators of Arena themselves. The new third edition follows in the tradition of the successful first and second editions in its tutorial style (via a sequence of carefully crafted examples and an accessible writing style. The updates include thorough coverage of the new version of the Arena software (Arena 7.01), enhanced support for Excel and Access, and updated examples to reflect the new version of software. The CD-ROM that accompanies the book contains the Academic version of the Arena software. The software features new capabilities such as model

documentation, enhanced plots, file reading and writing, printing and animation symbols.

Basic approaches to discrete simulation have been process simulation languages (e.g., GPSS) and event-scheduling type (e.g., SIMSCRIPT). The trade-offs are that event-scheduling languages offer more modeling flexibility and process-oriented languages are more intuitive to the user. With these considerations in mind, authors David Elizandro and Hamdy Taha embarked on the development of a new discrete simulation environment that is easy to use, yet flexible enough to model complex production systems. They introduced this environment, Design Environment for Event Driven Simulation (DEEDS), in

Simulation of Industrial Systems: Discrete Event Simulation in Using Excel/VBA. The DEEDS environment is itself an Excel/VBA add-in. Based on this foundation, the second edition, now titled Performance Evaluation of Industrial Systems: Discrete Event Simulation in Using Excel/VBA incorporates the use of discrete simulation to statistically analyze a system and render the most efficient time sequences, designs, upgrades, and operations. This updated edition includes new visualization graphics for DEEDS software, improvements in the optimization of the simulation algorithms, a new chapter on queuing models, and an Excel 2007 version of the DEEDS software. Organized into three parts, the book presents concepts of

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discrete simulation, covers DEEDS, and discusses a variety of applications using DEEDS. The flexibility of DEEDS makes it a great tool for students or novices to learn concepts of discrete simulation and this book can form the basis of an introductory undergraduate course on simulation. The expanded depth of coverage in the second edition gives it a richness other introductory texts do not have and provides practitioners a reference for their simulation projects. It may also be used as a research tool by faculty and graduate students who are interested in "optimizing" production systems.

Ross's classic bestseller has been used extensively by professionals and as the primary text for a first

undergraduate course in applied probability. With the addition of several new sections relating to actuaries, this text is highly recommended by the Society of Actuaries. This book systematically introduces modeling, performance evaluation and applications of Automatic Materiel Handling System (AMHS) in semiconductor manufacturing, and focuses discussion on the coordination of two subsystems. Resources dispatch and optimization are conducted on operational research combined with cases studies. Written in a practical way, it is an essential reference for researchers and engineers in manufacturing and management.

Prozessverbesserung mit Hilfe der dynamischen

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Simulation

Text, Cases and Materials on Public Law and Human Rights

Text with Materials

Ethics in Practice

Business Modeling

Handbook of Meningococcal Disease

Simulation with Arena

Chandrea Averill thinks she's just like any other normal young woman. But, on the day of her 23rd birthday, her life changes forever. Surrounded by magical creatures, dangerous

sorcery, and insidious political intrigue, Chandrea desperately wants to return to Earth and the only life she's ever known. But, the longer she stays, the more she realizes that she may be the only one with the power - both magical and political - to save the people of Lyrunia. Will she find the courage to remain and fight for her home world? A comprehensive overview of recent advances, from current basic research and epidemiology, to novel therapeutic strategies and clinical management. Here, the leading

scientists who have made major advances in the field provide up-to-date reviews and describe their current knowledge and concepts. As such, this is the first volume to summarize the implications of the meningococcus genome-sequencing project, emphasizing the novel strategies in vaccine development. Following a look at the history, the authors go on to treat the epidemiology of meningococcal disease, as well as the genetics, structure and function of virulence factors. Further chapters cover cross-talk

between meningococci and host cells, genomics and immunobiology. The result is a standard handbook for all scientists working in the field. While aimed at advanced specialists in basic research, epidemiologists, public health workers, vaccine developers and clinicians, the book is equally appropriate as introductory reading for graduates embarking on their career in this field.

United States audience includes 120,000-plus engineering students and 60,000-plus science

majors who are required to take a calculus-based statistics course Includes examples from MINITAB, EXCEL, STATISTIXS, SAS, SPSS, and MAPLE statistical software programs

The use of simulation modeling and analysis is becoming increasingly more popular as a technique for improving or investigating process performance. This book is a practical, easy-to-follow reference that offers up-to-date information and step-by-step procedures for conducting simulation studies.

It provides sample simulation project support materi

Exploring Dynamic System Behaviour

Modelling and Simulation

A Dictionary of Marketing

Introduction to Probability Models

A Practical Approach

A Modeling Language for Measurement

Uncertainty Evaluation

Being an Account in Biographical Form of

Individuals and Families Distinguished as

Representatives of the Social, Professional

and Civic Life of New York City

A world list of books in the English language. Designed for courses at advanced undergraduate or graduate level in industrial engineering and business, this text provides a review of various aspects of simulation study, including modelling, simulation software, validation, and output data analysis.

The Handbook of Communication Skills is recognised as one of the core texts in the field of communication, offering a state-of-the-art overview of this rapidly evolving field of study. This

comprehensively revised and updated fourth edition arrives at a time when the realm of interpersonal communication has attracted immense attention. Recent research showing the potency of communication skills for success in many walks of life has stimulated considerable interest in this area, both from academic researchers, and from practitioners whose day-to-day work is so dependent on effective social skills. Covering topics such as non-verbal behaviour, listening, negotiation and persuasion, the book situates communication in a range of different contexts, from interacting in groups

to the counselling interview. Based on the core tenet that interpersonal communication can be conceptualised as a form of skilled activity, and including new chapters on cognitive behavioural therapy and coaching and mentoring, this new edition also places communication in context with advances in digital technology. The Handbook of Communication Skills represents the most significant single contribution to the literature in this domain. Providing a rich mine of information for the neophyte and practising professional, it is perfect for use in a variety of contexts, from theoretical mainstream

communication modules on degree programmes to vocational courses in health, business and education. With contributions from an internationally renowned range of scholars, this is the definitive text for students, researchers and professionals alike. A Dictionary of Marketing is an accessible and wide-ranging A-Z, providing over 2,600 entries on topics spanning terms for traditional marketing techniques (from strategy, positioning, segmentation, and branding, to all aspects of marketing planning, research, and analysis), as well as leading marketing theories and concepts. Both classic and modern

marketing techniques are covered. Entries reflect modern changes in marketing practice, including the use of digital and multi media, the impact of the world wide web on advertising, and the increased influence of social media, search engine optimization, and global marketing. Also included is a time line of the development of marketing as a discipline and the key events that impacted the development, as well as over 100 relevant web links, accessed and updated via a companion website. In addition, the main appendix provides greater depth on the subject, including advertising and brand case

studies with a strong international focus. These are arranged thematically, e.g. automobile industry, food and drink, luxury goods, and focus on iconic brands, marketing campaigns, and slogans of the 20th century that have permeated our collective consciousness, exploring how the ideas defined in the main text of the book have been utilised successfully in practice across the globe. This dictionary is an indispensable resource for students of marketing and related disciplines, as well as a practical guide for professional practitioners.

Modeling, Analysis, Applications: Economy Edition

Multikriterielles Controlling von Geschäftsprozessen

Chemistry

Searching the Law, 3d Edition

Real-time Digital Signal Processing

Cross-Cultural Psychology

Performance Evaluation of Industrial Systems

In the last decade, the production of mechanical components to be assembled in final products produced in high volumes (e.g. cars, mopeds, industrial vehicles, etc.) has undergone deep changes due to the overall modifications in the way companies

compete. Companies must consider competitive factors such as short lead times, tight product tolerances, frequent market changes and cost reduction. Anyway, companies often have to define production objectives as trade-offs among these critical factors since it can be difficult to improve all of them. Even if system flexibility is often considered a fundamental requirement for firms, it is not always a desirable characteristic of a system because it requires relevant investment cost which can jeopardize the profitability of the firm.

Dedicated systems are not able to adapt to changes of the product characteristics while flexible systems offer more flexibility than what is needed, thus increasing investment and operative costs. Production contexts characterized by mid to high demand volume of well identified families of products in continuous evolution do not require the highest level of flexibility; therefore, manufacturing system flexibility must be rationalized and it is necessary to find out the best trade-off between productivity and flexibility by designing

manufacturing systems endowed with the right level of flexibility required by the production problem. This new class of production systems can be named Focused Flexibility Manufacturing Systems-FFMSs. The flexibility degree in FFMSs is related to their ability to cope with volume, mix and technological changes, and it must take into account both present and future changes. The required level of system flexibility impacts on the architecture of the system and the explicit design of flexibility often leads to hybrid systems, i.e. automated

integrated systems in which parts can be processed by both general purpose and dedicated machines. This is a key issue of FFMSs and results from the matching of flexibility and productivity that respectively characterize FMSs and Dedicated Manufacturing Systems (DMSs). The market share of the EU in the machine tool sector is 44%; the introduction of focused flexibility would be particularly important for machine tool builders whose competitive advantage is based on the ability of customizing their systems on the basis of needs of their

customers. In fact, even if current production contexts frequently present situations which would fit well with the FFMS approach, tradition and know-how of machine tool builders play a crucial role. Firms often agree with the focused flexibility vision, nevertheless they decide not to pay the risk and efforts related to the design of this new system architecture. This is due also to the lack of well-structured design approaches which can help machine tool builders to configure innovative systems. Therefore, the FFMS topic is studied

through the book chapters following a shared mission: "To define methodologies and tools to design production systems with a minimum level of flexibility needed to face, during their lifecycle, the product and process evolution both in the technological and demand aspects. The goal is to find out the optimal trade-off between flexibility and productivity". The book framework follows the architecture which has been developed to address the FFMS Design problem. This architecture is both broad and detailed, since it pays attention to all the relevant

levels in a firm hierarchy which are involved in the system design. Moreover, the architecture is innovative because it models both the point of view of the machine tool builder and the point of view of the system user. The architecture starts analyzing Manufacturing Strategy issues and generating the possible demand scenario to be faced. Technological aspects play a key role while solving process plan problems for the products in the part family. Strategic and technological data becomes input when a machine tool builder performs system

configuration. The resulting system configurations are possible solutions that a system user considers when planning its system capacity. All the steps of the architecture are deeply studied, developing methods and tools to address each subproblem. Particular attention is paid to the methodologies adopted to face the different subproblems: mathematical programming, stochastic programming, simulation techniques and inverse kinematics have been used. The whole architecture provides a general approach to

implement the right degree of flexibility and it allows to study how different aspects and decisions taken in a firm impact on each other. The work presented in the book is innovative because it gives links among different research fields, such as Manufacturing Strategy, Process Plan, System Design, Capacity Planning and Performance Evaluation; moreover, it helps to formalize and rationalize a critical area such as manufacturing system flexibility. The addressed problem is relevant at an academic level but, also, at an industrial

level. A great deal of industrial sectors need to address the problem of designing systems with the right degree of flexibility; for instance, automotive, white goods, electrical and electronic goods industries, etc.

Attention to industrial issues is confirmed by empirical studies and real case analyses which are presented within the book chapters.

An Introduction to Its Methodology

Discrete-event System Simulation

The Wise Men

Implementations, Applications, and

Experiments with the TMS320C55X
Binocular Vision and Ocular Motility
Modeling and Tools for Network Simulation
Methodologies and Tools