

Modern Production Operations Management Buffa Sarin

This well-balanced text with its fine blend of theory and applications, gives an in-depth understanding of production and operations management in an easy-to-understand style. Employing an innovative approach, the author, shows how the use of modern advanced technology gives a boost to production processes and significantly helps production and operations management. The book clearly demonstrates the use of special software packages to solve actual problems. Retaining the original contents, the book, divided into six parts, explains following in its second edition WHY Necessity of production and operations management WHAT Product/service design, product quality and other issues HOW Process design and related issues WHERE Plant location, layout and capacity WHEN Planning and control of production operations WHO Human relations issues that affect production and operations Key features • Learning objectives at the beginning of each chapter enable readers to focus on important points of a chapter. • A concept quiz at the end of each chapter helps the reader to evaluate his understanding of the concepts explained in a chapter. • Numerous solved examples, and answers to all chapter-end numerical problems have been provided. • Covers Service Operations in almost every chapter in addition to the traditional manufacturing operations. • A section with 10 progressive short case studies gives real-world experience. • Chapter-end summary helps readers to review and recapitulate the key concepts. The students of management and engineering (mechanical, production and industrial engineering) will be benefited with the book. An instructor manual containing PowerPoint slides and solutions to chapter-end problems is available. The book is recommended by AICTE for PGDM course. The link is www.aicte-india.org/modelsyllabus.php

Provides a conceptual and analytical operations management framework for both manufacturing and service firms. The thrust of this new edition is more quantitative in approach and more comprehensive in its discussion of strategic issues. Provides treatments of multi-criteria decision methods, quality control, and operations strategy not found in other texts. Divided into four sections, the first convincingly demonstrates that the operations function is of paramount importance in the success of a firm. The second section presents quantitative models, and the third and final sections discuss the design of operations systems, advanced technologies, strategy, formulation and implementation.

The "Metal Forming Handbook" presents the fundamentals of metal forming processes and press design. As a textbook and reference work in one, it provides an in-depth study of the major metal forming technologies: sheet metal forming, cutting, hydroforming and solid forming. Written by qualified, practically oriented experts for practical implementation, supplemented by sample calculations and illustrated all through by clearly presented color figures and diagrams, this book supplies fundamental information and solutions on the latest metal forming technology.

Enterprises have to react instantly to changing market conditions and disturbances that occur during execution of value creation processes. Depending upon the processes' context, the goal is to significantly reduce lead times, reaction times, and time-to-market, among others. The vision of a real-time enterprise (RTE), which is able to sense and analyze events from internal and external sources, and perform adequate (re-)actions, has been envisaged by manufacturing enterprises. Daniel Metz presents a framework based on EDA and CEP towards the realization of RTE in manufacturing. The framework closes the vertical integration gap, and further, establishes feedback in (near) real-time among enterprise levels. As such, the framework provides a holistic and closed-loop control of (manufacturing) processes, and encompasses

results and insights from management, engineering, and computer science. The framework has been implemented for a small and medium sized foundry in Germany. The developed control approach has led to a significant increase in (manufacturing) processes' efficiency (i.e., performance, quality, and availability).

This book provides a complete overview of production systems and describes the best approaches to analyze their performance. Written by experts in the field, this work also presents numerous techniques that can be used to describe, model, and optimize the performance of various types of production lines. The book is intended for researchers, production managers, and graduate students in industrial, mechanical, and systems engineering.

"This book presents advancements in the field of operations management, focusing specifically on topics related to layout design for manufacturing environments"--Provided by publisher.

Management - the pursuit of objectives through the organization and co-ordination of people - has been and is a core feature, and function, of modern society. Some 'classic' forms of corporate and bureaucratic management may come to be seen as a prevalent form of organization and organizing in the 20th century, and in the post-Fordist, global, knowledge driven contemporary world we are seeing different patterns, principles, and styles of management as old models are questioned. The functions, ideologies, practices, and theories of management have changed over time, as recorded by many scholars; and may vary according to different models of organization; and between different cultures and societies. The purpose of this Handbook is to analyse and explore the evolution of management; the core functions and how they may have changed; its position in the culture/zeitgeist of modern society; the institutions and ideologies that support it; and likely challenges and changes in the future. This book looks at what management is, and how this may change over time. It provides an overview of management - its history, development, context, changing function in organization and society, key elements and functions, and contemporary and future challenges. This book presents a comprehensive approach towards the industrialization of building. It argues that only industrialization and automation can bring radical changes necessary to the building industry.

Overviews manufacturing systems from the ground up, following the same concept as in the first edition. Delves into the fundamental building blocks of manufacturing systems: manufacturing processes and equipment. Discusses all topics from the viewpoint of four fundamental manufacturing attributes: cost, rate, flexibility and quality.

Materials management has become an important activity in both manufacturing and service organizations. Rapid changes in the industrial environment, such as the introduction of automation and Just-In-Time, and demands for increased productivity and quality have increased the need for all personnel to be concerned with total control of materials. Clearly this trend will continue, and materials management will play an increasingly vital role in organizational success, especially for operations that are becoming automated. Materials management will be more critical in many service organizations where the materials group has received little attention in the past. This book covers the basic materials management function and provides valuable insights into various other major functions related to it. We believe that each of these-manufacturing, marketing, finance, quality assurance,

and engineering-is vitally involved in materials management, and any coverage of the subject that excludes these functions offers too narrow a perspective. With increasing demand for materials managers, human resource requirements will be satisfied by individuals trained within the discipline and by personnel who have worked in other fields. The dimensions of materials management have grown so rapidly that many practicing managers are not aware that they are fulfilling material management functions. It is important that all individuals have the basic knowledge required to perform their roles in these organizations. A successful Operations Management (OM) requires a totality perspective: it has to have a cross-functional approach, involving all operations functions, such as Engineering, Human Resource Management (HRM), Purchasing, Manufacturing, Logistics, Accounting, Finance, and Marketing. This book comprehensively delves on all components of Operations Management, and pans out practical approaches for their effective and efficient handling. The book shows how Operations Management integrates the Top management, i.e. strategic level; Middle management, i.e. tactical level; and Functional management, i.e. operational level functions, to complement each other. Divided into 11 sections containing 28 chapters, the book extensively elucidates processes to formulate successful products and services, tools and measures of quality control standards (TQM), and various effective Supply Chain Management techniques. Along with theoretical expositions, the concepts are exemplified with Real-Life Cases and Examples throughout. The book is primarily intended for the postgraduate students of Management and Engineering—Production, Industrial and Mechanical. Also, the book will be equally useful for the management and engineering professionals.

Describes the key concepts of operations management, covering such topics as planning and control, the role of technology, and "just-in-time" techniques.

This remarkable volume highlights the importance of Production and Operations Management (POM) as a field of study and research contributing to substantial business and social growth. The editors emphasize how POM works with a range of systems—agriculture, disaster management, e-commerce, healthcare, hospitality, military systems, not-for-profit, retail, sports, sustainability, telecommunications, and transport—and how it contributes to the growth of each. Martin K. Starr and Sushil K. Gupta gather an international team of experts to provide researchers and students with a panoramic vision of the field. Divided into eight parts, the book presents the history of POM, and establishes the foundation upon which POM has been built while also revisiting and revitalizing topics that have long been essential. It examines the significance of processes and projects to the fundamental growth of the POM field. Critical emerging themes and new research are examined with open minds and this is followed by opportunities to interface with other business functions. Finally, the next era is discussed in ways that combine practical skill with philosophy in its analysis of POM, including traditional and nontraditional applications, before concluding with the editors' thoughts on the future of the discipline.

Students of POM will find this a comprehensive, definitive resource on the state of the discipline and its future directions. ????

It is specially designed to suit the latest syllabi of courses on Production/Operations Management offered by various universities to the undergraduate students of Mechanical Engineering, Production Engineering and Industrial Engineering as well as students of Master of Business Administration (MBA) specializing in Production and Operations Management stream. The book offers a balanced coverage of the fundamental principles of managing operations and the quantitative techniques used to support the functions of operations management. There are many worked-out examples in each chapter to enable students to comprehend the quantitative material of the book. The text is divided into two parts. Techniques of operations research such as linear programming, transportation assignment models, dynamic optimization and waiting line models are discussed in Part I. Some generic classes with functions for array and matrix manipulation, analysis of queuing models and evaluation of probability for some standard distributions have been defined and used throughout for writing programs for diverse managerial applications. Part II is devoted to a detailed discussion of management functions such as Product Design and Development, Forecasting, Capacity Analysis, Plant Layout, Assembly Line Balancing, Inventory Control, Materials Requirement Planning, Production Scheduling, Quality Control, Total Quality Management, Just in Time (JIT), Supply Chain Management, Maintenance Management and Six Sigma. Small computer programs have been given wherever required for solving practical problems. The functions developed in generic base classes have been used to take advantage of source code reusability offered by Object Oriented Programming (C++).

Distributed service networks encompass various facilities with which we have daily contact. In the public sector they include, for instance, ambulance, fire, and police services; in the business sector they include maintenance and repair services, road services, courier services, and the like. Policy making problems in distributed service networks can be clearly classified into a number of hierarchical levels. The levels are distinguished by the time horizon of the problem, by the amount of cost involved in the implementation of a solution, and by the political implications of the solution. This top-down classification is typical of what is known as the "systems approach," advocating that the direction of the analysis of complex systems should be from the whole to the details. The top-down classification consists of the following categories of policies: 1. Zoning: How should a network be partitioned into subzones? 2. Station location: Where should service stations or service units be located? 3. Resource allocation: What amount of resources should be allocated to the stations? vii viii Preface 4. Dispatching, routing, and repositioning: What is the optimal dispatching policy, what are the optimal routes for nonbusy units, and under what circumstances is it worthwhile to reposition a certain idle unit? A top-down approach implies that each of the problems is solved separately; however, the solution of a higher-level problem sets constraints on problems at lower levels.

In two volumes, *Planning Production and Inventories in the Extended Enterprise: A State of the Art Handbook* examines production planning across the extended enterprise against a backdrop of important gaps between theory and practice. The early chapters describe the

multifaceted nature of production planning problems and reveal many of the core complexities. The middle chapters describe recent research on theoretical techniques to manage these complexities. Accounts of production planning system currently in use in various industries are included in the later chapters. Throughout the two volumes there are suggestions on promising directions for future work focused on closing the gaps.

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In the fall of 1992 a conference honoring Elwood S. Buffa was held at the Anderson Graduate School of Management of the University of California, Los Angeles. This book is a collection of the work presented at that conference. The scholars who gathered to honor El are the prominent researchers in the field of Operations Management. Their collective work published in this book represents the richness of the field and provides the reader with valuable insights into its important issues and problems. While any grouping of the articles by these distinguished scholars will be arbitrary, I have organized the book in four sections. In the first section the articles dealing with the strategic issues in Operations Management are compiled. The articles deal with continuous improvement, quality, services, supply chain management, and creating value through operations. The articles that explore the interface of Operations Management with other functional areas, e.g. engineering and marketing, are grouped in the second section. The third section of the book contains articles that attempt to model some important planning problems that arise in the management of production and operations. Some of the papers in this section provide state of the art reviews of selected topic areas. Finally, the fourth section contains articles that deal with future directions for Operations Management. The authors offer several insights into the future evolution of the field. The book begins with the keynote address given by El Buffa at the start of the conference on November 2, 1991.

This widely adopted and well-established book, now in its Third Edition, provides the students of management and engineering with the latest techniques in production and operations management, considered so vital for maximizing productivity and profitability in business. What distinguishes the text is a comprehensive coverage of topics such as contract laws, capacity requirement planning, vendor evaluation including AHP method, quality function deployment, and enterprise resource planning. The new topics, which are of current interest, along with the characteristic features and easy-to-read style, would enhance the value of this text. The book is primarily intended as a text for postgraduate students of management, undergraduate students of mechanical engineering and undergraduate and postgraduate students of industrial, and production engineering courses. This profusely illustrated and well-organized text with its fine blend of theory and applications would also be useful for the practicing professionals. NEW TO THIS EDITION : Objective Type Questions at the end of each chapter Additional example problems in Chapters 5 and 17 XYZ, VED, FSN, and SDE analyses Process planning case study in Chapter 2 Case Study Questions in Chapters 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, and 15 Heuristic to minimise total tardiness in single machine scheduling KEY FEATURES : Focuses on productivity related concepts and techniques Provides solved examples at suitable places Includes sufficient tables and diagrams to illustrate the concepts Updates the reader with many efficient and modern algorithms Contains Answers to selected questions and Objective type questions

Industrial engineering affects all levels of society, with innovations in manufacturing and other forms of engineering oftentimes spawning cultural or educational shifts along with new technologies. Industrial Engineering: Concepts, Methodologies, Tools, and Applications serves as a vital compendium of research, detailing the latest research, theories, and case studies on industrial

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engineering. Bringing together contributions from authors around the world, this three-volume collection represents the most sophisticated research and developments from the field of industrial engineering and will prove a valuable resource for researchers, academics, and practitioners alike.

Market_Desc: Manufacture Managers and Executives. About The Book: The thrust of this edition is more quantitative in approach and more comprehensive in its discussion of strategic issues. It provides treatments of multi-criteria decision methods, quality control, and operations strategy not found in other texts. Divided into four sections, the first convincingly demonstrates that the operations function is of paramount importance in the success of a firm. The second section presents quantitative models, and the third and final sections discuss the design of operations systems, advanced technologies, strategy, formulation and implementation.

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