

BOOK REVIEW

Industrial Engineering: Concepts, Methodologies, Tools and Applications

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Industrial Engineering: Concepts, Methodologies, Tools and Applications
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Currently, it is usual described industrial engineering as the branch of engineering that is concerned with *increasing productivity through the management of people, methods of business organization and technology* or by others words *industrial engineering is human effort engineering and system efficiency engineering*. Depending on the specialties involved, industrial engineering include, operations management, management science, systems engineering, manufacturing engineering, ergonomics or human factors engineering, safety engineering, etc.

The present book, *Industrial engineering: concepts, methodologies, tools and applications*, in 3 volumes, explain research in industrial engineering with quality in 8 sections (109 chapters). The sections are: (1) Fundamental concepts and theories, (2) Development and design methodologies, (3) Tools and technologies, (4) Utilization and application, (5) Organizational and social implications, (6) Managerial impact, (7) Critical issues, and (8) Emerging trends.

Section 1 provides information on crucial theories essential to the understanding of industrial engineering. Section 2 discusses the conceptual design and architecture of industrial engineering, focusing on aspects including parametric design, service design, fuzzy logic, control modelling, supply chain systems, and many more topics. Section 3 discusses extensive coverage of various tools and technologies used in the implementation of industrial engineering. Subsequently, section 4 describes

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how the broad range of industrial engineering efforts has been utilized and offers insight on and important lessons for their applications and impact. Section 5 includes chapters discussing the organizational and social impact of industrial engineering. Section 6 is dedicated to coverage of industrial engineering as it relates to effective uses of offshoring, network marketing, knowledge management, e-government, knowledge dissemination, and many more utilities. Section 7 describes coverage of academic and research perspectives on industrial engineering tools and applications. Finally, the section 8 is dedicated

to highlights areas for future research within the field of industrial engineering.

This book can be used for final undergraduate engineering course (for example, industrial, mechanical, manufacturing, systems, etc.) or as a subject on industrial engineering and management at the postgraduate level. Also, this book can serve as a useful reference for academics, researchers, managers, industrial, mechanical, manufacturing and systems engineers and others professionals in related with industrial engineering and management.

J. Paulo Davim received his PhD degree in Mechanical Engineering from the University of Porto in 1997 and the Aggregation from the University of Coimbra in 2005. Currently, he is an Aggregate Professor at the Department of Mechanical Engineering of the University of Aveiro. He has more 25 years of teaching and research experience in manufacturing, materials and mechanical engineering with special emphasis in machining and tribology. Recently, he has also interest in sustainable manufacturing and industrial engineering. He is the Editor-in-Chief of six international journals, guest editor of journals, books editor, book series editor and scientific advisory for many international journals and conferences. Presently, he is an editorial board member of 20 international journals and acts as reviewer for than 70 prestigious ISI Web of Science journals. In addition, he has also published in his field of research as author and co-author more than 40 book chapters and 350 articles in journals and conferences (more 180 articles in ISI Web of Science, h-index 25+).