

Preface

Industrial engineering is the branch of engineering that is concerned with “increasing productivity through the management of people, methods of business organization and technology” or in other words, “industrial engineering is human effort engineering and system efficiency engineering”. Depending on the subspecialties involved, industrial engineering include operations management, management science, systems engineering, manufacturing engineering, ergonomics or human factors engineering, safety engineering, etc.

The purpose of this book is to present a collection of examples illustrating research advances in industrial engineering. Chapter 1 of the book provides lean manufacturing (recent trends, research and development and education perspectives). Chapter 2 is dedicated to a case study on lean product and process development. Chapter 3 contains information on lean product development enablers for product development process improvement. Chapter 4 is dedicated to discussing and evaluating the green environmental performance of manufacturers. Chapter 5 contains information on simulation study. Chapters 6 and 7 are dedicated to mathematical modelling with an application to nuclear power plant reliability analysis and gas turbine assimilation under copula-coverage approaches, respectively.

The current book can be used as a research book for the final undergraduate engineering course or as a topic on industrial engineering at the postgraduate level. Also, this book can serve as a useful reference for academics, engineers, managers, researchers, and professionals in industrial engineering and related subjects. The scientific interest in this book is evident for many important centers of research, universities as well as industry. Therefore, it is hoped this book will inspire and enthuse others to undertake research in industrial engineering.

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