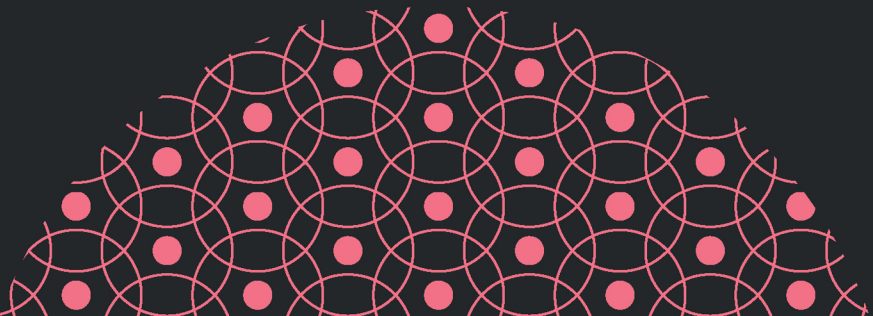




**EMERALD POINTS**

**THE INTEGRATED  
APPLICATION  
OF EFFECTIVE  
APPROACHES IN  
SUPPLY CHAIN  
NETWORKS**

**RAMIN ROSTAMKHANI  
THURASAMY RAMAYAH**



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# THE INTEGRATED APPLICATION OF EFFECTIVE APPROACHES IN SUPPLY CHAIN NETWORKS

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INVESTOR IN PEOPLE

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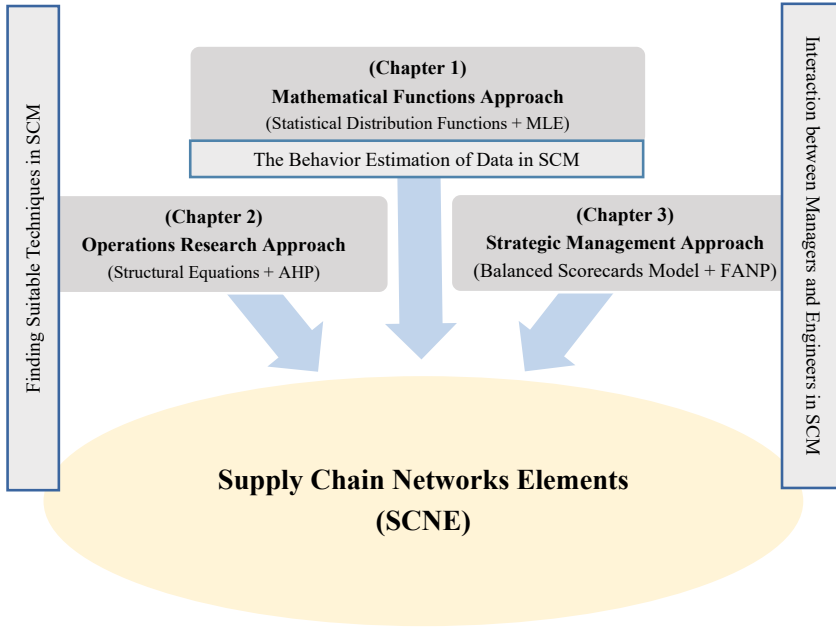
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# PREFACE

In today's competitive world, the necessity of gathering information about supply chain networks and analyzing it from different aspects is not hidden from anybody. International managers, organizational experts, and many decision-makers need this information. This book is one of the rarest books on the integrated application of effective approaches in supply chain networks. While many books with a similar theme explain different techniques in supply chain networks separately, this book links extremely effective approaches belonging to different branches of science to supply chain elements in an integrated format. These topics are categorized as follows in this book:

- (1) In the first chapter, the use of the mathematical functions approach (statistical distribution functions and maximum likelihood estimation) is discussed to explain the behavior of supply chain network data.
- (2) In the second chapter, the use of operations research (multiobjective linear programming by structural equations and analysis hierarchy process) aims to find suitable quality techniques in supply chain elements.
- (3) In the third chapter, the use of a strategic management approach (balanced scorecard model and fuzzy analysis network process) describes the interaction between supply chain managers and quality engineers.

Professor Thurasamy Ramayah with more than 30 years of experience in teaching at the School of Management at Universiti Sains Malaysia and other top universities has shared his expertise in information technology and statistical techniques in the book. Ramin Rostamkhani as a Senior Researcher with more than 20 years of experience in industry has also shared his expertise in supply chain management (SCM) and quality engineering techniques in the book. Both authors have written a book about the application of quality engineering techniques in SCM in 2022. That book was related to the application of statistical and non-statistical tools in SCM. This book is a strong

supplemental source after that book. In fact, this book can assist professional readers to more deeply understand the role of integration of different techniques in an intelligent approach based on conceptual academic issues in supply chain networks.

It should be noted that in the final part of this book, there is a supplemental chapter. This chapter has a brief history of the formation of the subject. In fact, this chapter is for readers interested in the historical review of the subject.

The integrated application of effective approaches in supply chain networks and related data analysis is the main topic of this book. This book, in addition to expanding the application of different techniques belonging to different branches of science aims to create purposeful coordination and integration for the analysis of supply network data. This achievement, with the distinguished academic and industrial experiences of the authors, can provide the book with an attractive destination, especially for professional readers. The knowledge that reading this book will provide to professional readers, including experts, managers, and graduate students in the field of network data analysis, will enhance creativity more than any other effect.

*The integrated combination of applied mathematics (statistical distribution functions) and operations research (multiobjective linear programming) in addition to the analytics hierarchy process along with the basics of strategic management (the balanced scorecard model) and fuzzy analysis network process can be attractive and significant in any branch of science or engineering.*

Ramin Rostamkhani – Thurasamy Ramayah