

Preface

We are living in such a connected century that networks (e.g., social networks) are attracting more and more attentions of people every day. Twitter, Facebook, and LinkedIn are among the most celebrated companies.

We can easily manifest that the success comes from understanding the importance of collaboration and network science. In the manufacturing context, even if manufacturing itself is very efficient a company can hardly compete with others through more expenditure in it. Rather, one should look into procurement, distribution channels, facility, and inventory decisions as a whole in order to compete to satisfy the high quality needs of customers at a reasonable (i.e., minimal) cost. Supply chain management has remained as one of the hottest topics for decades for this case. However, supply chain design and improvement in any area of supply chain requires integration and engagement to justify the fact that the strength of a chain is due to its weakest link. Then, as one would agree, one's genius can hardly beat a collective genius.

This book introduces state-of-the-art supply chain management topics keeping it brief enough for novice readers and deep enough for researchers in the field. The book adopts both management and optimization paradigms.

Management topics include strategic level organization and planning-related subjects. Optimization topics review important optimization models for supply chain-wide location, production, and transportation problems. Solution procedures are discussed as well. Illustrative examples are provided. Each chapter ends with remarks providing the core ideas of the chapters.

The book starts with an *Introduction* and the second chapter deals with *Supply Chain Management*. This chapter discusses key decisions in supply chain management and considers planning operations for it. The third chapter introduces *Scheduling Models in Supply Chain*. The last chapter is *Optimization in Supply Chain*. Optimization problems and models reviewed are classified under transportation and facility location.

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Pirim, H.; Al-Turki, U.; Yilbas, B.S.

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