Preface

Global supply chain has continued to gain great attention in recent decades due to globalization and economic policies by companies striving to gain bigger market share and countries that make every effort for freer trade. The concept of supply chain has evolved progressively over time, from simple supplier systems with one or two suppliers to global chains with complex networks of suppliers, vendors, warehouses, manufacturers, shippers, wholesalers, and/or retailers. This evolution has driven firms to be more agile, flexible, adaptive, and cost effective, providing services and products that fulfill their customers’ requirements. For example, the constant increase in energy costs and the rapid economic growth causing a boost in the demand for products and services in new emerging economic power countries such as Brazil, India, and China. This has contributed to increase costs in transportation systems, which are highly dependent on fossil fuels. Managing the supply chain has become more challenging and requires innovative thinking to reduce the total cost of the chain. The dynamic environment of extreme global competitiveness presents firms, small and large, with domestic or international novel challenges and issues to consider. This implies identifying and focusing on the most important issues in typical supply chain systems to face and find effective solutions for. Accordingly, what does the future hold for domestic supply chains as it is moving from primarily regional and national to the global focus? To answer this question, the book covered concepts, theories of industry, and industry’s cases of global supply chain through implications of trends and opportunities, as well as their impacts on the global economy. This edited book, entitled “Customer-Oriented Global Supply Chains: Concepts for Effective Management,” brings a collection of chapters that analyze concepts related to competing goals such as increase flexibility, adaptability, and effectiveness of the global supply chain, the need to reduce total costs, improve services, and ultimately, satisfy the customers. The book adopted an interdisciplinary approach through a careful selection of chapters developed by leading researchers and practitioners from different countries and continents.

The objectives of the book are to cover state-of-the-art research trends in the area of global supply management networks and analysis. It’s a useful reference book for academicians and practitioners seeking to conceptualize this emerging area. Currently, there are few good books addressing a vast array of global supply chain theories and practices. In order to provide the best balanced coverage of concepts and issues related to the selected topics of this book, researchers from around the world were asked to submit proposals describing their proposed coverage and the contribution of such coverage to the book. All proposals were carefully reviewed by the editors in light of their suitability, researcher’s records of similar work in the area of the proposed topics, and the best proposal for topics with multiple proposals. The goal was to assemble the best minds in supply chain, information science, and technology fields from all over the world to contribute entries to the book. Upon the receipt of full entry submissions,
each submission was forwarded to at least three expert external reviewers on a double-blind, peer review basis. Only submissions with strong and favorable reviews were chosen as entries for this book. In many cases, submissions were sent back for several revisions prior to final acceptance.

Therefore, the editors believe that making this publication available will be a valuable contribution to students, researchers, and practitioners in the logistics and supply chain communities.

The following paragraphs provide a brief synopsis on the chapters covered.

Chapter 1, by Veronique Nabelsi, covers the application of supply chain tools such as lean management, agile systems in healthcare industry in order to cut costs and improve quality of healthcare services. She argues for improvements that require more integrated supply chain management practices, efficient processes, and systems to develop a strategic framework for customer-oriented or patient-driven supply chain management.

Knowledge Sharing in Supply Chain by Zhu, Ngoro, Ajmal, and Kristianto, borrows from the physical sciences principles of thermodynamics concepts for knowledge sharing in supply chains. The authors found that distance and the knowledge capacity of the supplier are important to reduce knowledge sharing uncertainty. Furthermore, higher contact frequency between the supplier and the buyer without considering supplier capacity is proven to be insignificant to reduce knowledge sharing uncertainty. The thermodynamics analogy, according to the authors, which is the topic of chapter 2, provides a new approach to explain knowledge sharing in supply chains.

Authors Paolo Renna and Rocco Padalino propose a development of a multi-agent scheduling approach to support manufacturing systems in different dynamic conditions in supply chains in chapter 3. The negotiation protocol is based on financial assets mapped with the process of the manufacturing system. A fuzzy method is used to assign each component based on the objectives pursued. Simulation was used to test the proposed approach and to compare it with classical dynamical scheduling approaches. Their approach showed better results compared to the classical dynamic scheduling approaches.

Ron Meier and Dan Brown’s chapter 4 introduces project managers’ perceptions on the importance of developing relationships with preferred suppliers. The relationship between the project manager and suppliers, according to them, has the potential to impact planning, project costs, time management, quality management, technical expertise, and product availability. They identify key characteristics and attributes of supplier-oriented purchasing behaviors in project-oriented environments and show that the most strongly valued attributes are clustered with quality, communication, attentiveness, and professionalism.

The topic of coopetition in supply chain is covered in chapter 5 by Lincoln Wood. Coopetition is the mixing of competitive and cooperative relationships in a supply chain. Using a case study in the agriculture sector of New Zealand companies in the horticulture industry, various elements of the supply chain are examined from both strategic and operational perspectives. The connections to the customer are shown to be enhanced through careful implementation, as the group of companies act to adjust their supply chains to make them increasingly customer-orientated. The author argues that significant benefits are shown to accrue in the supply chain including improved information flow, increased ability to supply, and flexibility to meet customer requirements.

Alavizadeh, Djavanshir, Tarokh, and Mohammed, in chapter 6, cover agile value creation and co-evolution in global supply chains covered the concept of co-contribution to creating value for customers. According to the authors, co-evolution and agility are ongoing processes. They argue that as technology changes and market varies, new challenges appear constantly, and companies should strive to address them by changing their strategies.
The chapter by Addo-Tenkorang and Eyob introduces a best practice concurrent approach for reducing the lead-time at an engineer-to-order product design/development stage by seeking to integrate business Information Technology systems such as ERP in the design and operational phases to improve supply chain, which is covered in chapter 7.

Chapter 8, by Janet Sanders, provides an overview of the importance of total quality management in supply chain management. It provides a summary of the evolution of quality and how supply chain management fit into the evolution. It then discusses the importance of quality for each entity of the value chain and how the reduction of variability along the entire supply chain is critical to optimum delivery performance. Furthermore, discussion on how quality and continuous improvement tools and methodologies can be mapped with supply chain management strategies to optimize the performance of the entire supply chain is included.

Kaninika Bhatnagar examines the role of women in supply chain management, in chapter 9, in the context of management practices, education, and HR issues. The role of a diverse workforce, particularly women, is reexamined from the perspective of maximizing the bottom-line and profit sharing in the logistics industry.

Norizan Mohd Kassim investigates how image, perceived service quality, and satisfaction determine customer retention in the banking industry in Malaysia, and by extension, competition with international financial institutions. Data was obtained using a sample of retail banking customers in Malaysia and showed that image is both directly and indirectly related to retention through satisfaction, while perceived service quality is indirectly related to retention through satisfaction, all of which is found in chapter 10.

The objective of cloud computing was covered by Daim, Britton, Subramanian, Brenden, and Intarodeon in chapter 11, to predict the adoption rate of Cloud Computing in the future with a soft timeline using a scenario-based forecasting model. The authors conclude with recommendations and predictions in the near future, which could serve as tools businesses could use to determine if cloud computing is the right step in meeting their technology and business needs, especially in supply chains where small suppliers are laggards in adopting integrating software.

The topic of radio frequency identification (RFID) was covered by Albert Lozano Nieto in chapter 12. The chapter covers a relatively new technology for automated identification; RFID is based on the exchange of information using radio frequency signals between the reader queries and special tag. Among the different uses of RFID in the supply chain, this chapter focuses on those related to inventory control and the detection of counterfeited products.

Chapter 13, by Saban and Mawhinney, discusses the importance of human collaboration in supply chain management. The authors argue supply chain performance is often tied with acquiring the best technology or process to be marginally useful. The authors promote supply chain performance and human collaboration for better results. To change conventional thinking, this chapter proposes a holistic approach to achieving human collaboration among distributed partners, clarifies the forces that facilitate human collaboration, and identifies the steps management can take to create more collaborative team members.

Tetteh, Eyob, and Amewokunu use a Multivariate Analysis of Variance (MANOVA) approach to evaluate the performance of work cell, shift, worker’s experience, and kaizen event participation level during a lean enterprise deployment effort at a multinational firm in its supply chain, all covered in chapter 14. Furthermore, the significance of the effects of these variables were assessed based on various lean supply chain tools such as first in first out, setup wheel system, standard operating procedures (SOP), clip system, and key performances indicators (KPI). The results support the criticality of the use of metrics and their impacts in implementing a lean manufacturing in a global supply chain environment.
The purpose of chapter 15 is to chronicle and analyze existing challenges and theoretical issues in the domain of product, system, and the emerging area of global supply chain sustainment. These challenges encompass the provision of reliable, efficient, cost-effective, and quality services by key players and major stakeholders in product and global supply chain. The author argues that sustainment concept serves as a vehicle for elevating the rate of product and system utilization. This will have a tremendous impact at reducing the burden of product or system’s operational issues thereby allowing for the leveraging of the enormous potentials of sustainment. Both contemporary as well as classical journal papers and publications are included in this study to trace and describe the development, state of sustainment perspectives, available tools, and methodologies in product and global supply chain system sustainment.

Chapter 16 highlights the importance of contracts for coordination between companies in a supply chain. It considers a dyadic situation, with a supplier and a retailer. Coordination is achieved by two types of decisions: economic, concerning prices established and stated over a contract, and physical exchange of products, concerning the inventory that is going to be held by the retailer. First, one contract with a simple pricing scheme is considered, and then, two contracts with inventory holding cost shared among the companies of the supply chain. The former is presented to explain the general situation, and the two latter ones are used to explain different schemes of inventory cost share. A numerical example is also shown. The objective is to illustrate that a supply chain may be efficiently coordinated if the companies establish contracts with inventory holding cost share.

Overall, the sixteen chapters provide strength and quality to this book for supply chain professionals, information science and technology researchers, and also decision makers in the quest of obtaining greater understanding of the concepts, issues, problems, trends, challenges, and opportunities related to this field of supply chain. It is the sincere hope of the editors of this book that this publication and its vast amount of information will assist researchers, teachers, students, and practitioners in enhancing their understanding of global supply chain management and solutions applied. The editors anticipate their audience will enjoy reading this book.

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