

**Book Review**  
**of**  
**Handbook of Global Logistics**  
**Transportation in International Supply Chains**

James H Bookbinder, Editor  
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by

Anna Nagurney  
Department of Operations and Information Management  
Isenberg School of Management  
University of Massachusetts, Amherst, Massachusetts 01003

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This volume is a collection of commissioned contributions, edited by James H Bookbinder, to follow up on a special issue of the journal *Transportation Research E*, edited by the same editor, which focused on Global Logistics. One of the goals of this volume is to have perspectives of logistics researchers in different geographic areas.

The volume is divided into six parts: Logistics and Supply Chains in Asia, Logistics and Supply Chains in Latin America, Logistics and Supply Chains in Europe, Logistics and Supply Chains in the Developing World, Transportation Models and Their (Land) Interfaces, and Innovative Features and Recent Global Developments.

Part I consists of four chapters. The first chapter by Chen and Lee focuses on logistics in China in terms of practice, emphasizing geographical issues, modes of transportation, as well as economic challenges and perspectives for the future. The authors provide a broad literature review of different aspects of logistics in China, and present two case studies of an OEM company and a 3PL company. Chapter 2 by Sundarraaj and Kumari investigates the potential of Electronic Procurement Systems (EPS) in India, given the major role that IT plays there. The authors briefly compare supply chains in India with those in North America, noting how some Indian firms have overcome fragmented supply chains by including Indian customs. The authors describe the benefits of EPS and conduct a survey of Indian managers about the importance of EPS features, with respondents recognizing the importance, although adoption is low. They then follow up with case studies on three Indian companies. Sohal and Rahman in Chapter 3 give a wide and deep discussion on the use of third party logistics (3PL) services in the Asia-Pacific region, primarily among Australia, India, Malaysia, and Singapore. The authors use a literature-based approach and overview of the growth in outsourcing of logistics, the motivation behind the growth, and discuss the types of services offered in the supply chain by 3PL providers. In addition, Sohal and Rahman detail the competencies needed by logistics managers with a specific emphasis on China and Australia. This chapter is a nice complement to the first two chapters. Chapter 4 by Banomyong describes in depth the need for efficient logistics services in the Greater Mekong Sub-region (GMS) in Southeast Asia, consisting of Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Vietnam, as well as the Yunnan Province, and the Guangxi Zhuang Autonomous Region of China. The emphasis is on economic corridors with the need for assessing the logistics performance of these corridors. An overview is given of the status of GMS logistics developments and the transport mode networks. A corridor logistics assessment model is presented with time and cost components. The author proposes an integrated approach to handle the challenges posed by rules and regulatory aspects associated with cross-border issues and transit routes coupled with enhanced logistics and infrastructure to develop full-fledged economic GMS corridors.

Chapter 5 by Braier and Marengo begins Part II of the handbook, which consists of 3 chapters. This chapter discusses strategic and tactical modeling of the Argentine sugar industry through the use of operations research. Braier and Marengo worked with Ledesma SAAI, which is a leading company in the sugar industry there. They describe a linear programming model representing the production, packaging, and logistical decisions for the business by capturing regular (monthly) decisions of the planning team. The model is essentially a multicommodity, multiperiod network flow model. The objective function includes a cost term and a penalty term. The linear programming model is then embedded in a computational

software system that has been used by the planning team of the company. Yoshizaki, Hino, and Cherbat also develop a linear programming model in Chapter 6 for the integration of liner container shipping and short sea service (cabotage) in Brazil. The model maximizes the gross contribution margin and evaluates the consequences of mixing international and domestic loads. A real case is presented with sensitivity analysis that shows that such integration is quite positive in terms of performance indicators. Chapter 7 by the Editor and Mant describes the results of their extensive review of the academic literature on research and applications concerning Latin American logistics and supply chain management. The literature ranges from models and analyses in a single country to case studies of specific firms in a region and general issues of Latin American supply chains. The authors also provide lessons for business decisions overall, such as the influence of clusters and the roles of quality and trust among supply chain partners, and give their insights into the state of Latin America logistics.

Part III, comprised of four chapters, begins with a chapter by Gammelgaard and Kinra on logistics in the Oresund region of Scandinavia, which gained in importance from logistics and supply chain perspectives after the building of the fixed link bridge in 2000, which joined Sweden and Denmark. The authors argue for the need for continued investments in infrastructure projects as the enlargement of the European Union has brought new trade patterns to the continent. Psaraftis, Minsaas, Panagakos, Pålsson, and Salanne in Chapter 9 describe eloquently the challenges and prospects for green corridors in European surface freight logistics, and the associated “SuperGreen” project that involves 22 partners from 13 European countries. They also elaborate on Key Performance Indicators (KPIs) such as efficiency, service quality, environmental sustainability, infrastructural sufficiency and social issues, and report on those identified to be the most important by stakeholders. Rodrigue and Notteboom in Chapter 10 provide an extensive overview of containerized freight distribution in North America and Europe, emphasizing the different network structures and comparative intermediacy of transport modes. They demonstrate that the main differences in freight distribution between Europe and North America lie in intermediacy (transshipment hubs, rail networks), as well as the roles of short sea shipping and inland waterway transport, the configuration of the gateway port systems, and the inbound logistics structures. Chapter 10, authored by Köksalan, Süral, and Özpeynirci, describes a mixed integer linear programming model for the network redesign problem in Turkey of the supply, production, and distribution of malt and beer for a Turkish corporation, Efes Beverage Group. The model minimizes fixed costs and annual transportation costs and determines the locations of new malt plants and breweries and the distribution decisions for barley, malt, and different types of beer. The authors also provide a nice historical overview of beer production and beer logistics, providing additional background on location application research in Turkey.

Chapter 12 by Maltz, Carter, and Villalobos is the first chapter of Part IV, which has two chapters. The authors consider the important topic of global sourcing/procurement and the role of logistics in sourcing decisions and provide an informative review of the major issues. They describe results from a survey of sourcing managers in Europe and North America as to their ratings of a list of geographical areas on 12 attributes for the evaluation of low cost countries for sourcing purposes. The authors also provide a case study over the U.S./Mexico border. Lee, Rammohan, and Sept describe an ambitious, successful project by Riders for Health in Gambia in providing innovative logistics in extreme conditions with a focus on health care. The authors discuss the innovations in terms of the coordination of material, financial, and informational flows and the use of a comprehensive vehicle management model emphasizing the use of motorcycles and their maintenance. The achievements of Riders in Gambia and other parts of Africa can serve as a model for business logistics operations in emerging economies, the authors note.

Part V, which consists of four chapters, begins with a chapter by Reynolds-Feighan analyzing air freight networks in regional markets around the globe. The author provides a comprehensive analysis of Asian, European, North American, and Middle East air freight networks of both combination passenger and freight and all-freight carriers using air freight capacity datasets for 1999-2009. She also uses social network visualization tools to present vivid graphical representations of the carrier network structures. de Langen, Fransoo, and van Rooy, in Chapter 15, concentrate on hinterland transport, which is the transport from the port to the final destination, and vice versa. They focus on the development of both business models and a formal model for network design, which includes both a base case and a hub and spoke network. Hinterland transport has not received much attention in the academic literature. The authors discuss the different companies that are involved in hinterland transport and the relevance of competition,

especially important in intermodal freight transport, as well as cooperation and coordination. Higginson, in Chapter 16, discusses cross-border issues faced by carriers, shippers, importers, and exporters when products move across international borders. The author highlights the major border issues of time and cost, describes where data can be obtained for studying Canada-U.S. border issues, and emphasizes that the environment is very dynamic and that border-crossing time data can change quickly. Cross-border issues associated with several different countries are also given. Finally, the impacts of cross-border issues on the supply chain are described and possibilities for further research, including potential applications of Operations Research noted. In Chapter 17, Son, Patwari, and Yu study the relationships among facility location, transportation mode selection, and material flows in global supply chains through a literature review, mathematical model, as well as case study consisting of a supply chain of electronic products. The model includes customer zones, distribution centers, and production plants and is a mixed integer programming model with the objective of maximizing after tax profit over the planning horizon. They advocate the use of optimization models to study the relationships among facility locations, transport mode selection, and material flows.

Part VI has four chapters, beginning with Chapter 18 on humanitarian logistics authored by Duran, Ergun, Keskinocak, and Swann. The authors provide an overview of disaster management, consisting of four phases, and highlight the unique challenges of humanitarian logistics. They discuss a pre-positioning of relief supplies network for disaster response using optimization and illustrate the challenges in a case study for CARE International. Emphasis is placed on the financial issues that relief organizations face. Suggestions for future research are given. Sheffi, in Chapter 19, provides an expansive overview of logistics clusters, their advantages, and roles in economic development and job creation. He discusses in detail such logistics clusters as Singapore, Rotterdam, Zaragoza, Memphis, Panama, and a development in Texas. Sheffi also provides background on the natural conditions and history of several of these logistics clusters. Crainic, Marcotte, Rei, and Takouda provide in Chapter 20 a thorough discussion of proactive order consolidation (POC) in global sourcing, which is an innovative strategy for wholesalers that seeks to group orders before they are sent to suppliers so that the total transportation and inventory costs of the firm are minimized. The authors provide excellent background information on processes and practices associated with procurement and order management along with consolidation activities in logistics. They also detail how bin packing models can be applied for the efficient grouping of orders of relatively small volumes into lots with total volumes near the available container capacity. Results of the numerical experiments are also presented showing favorable outcomes of the POC strategy for wholesalers.. The final very interesting chapter in this edited volume, Chapter 21, by the Editor and Prentice, speculates provocatively on the future prospects for global logistics over the next ten to fifteen years. The authors discuss growth in global trade, the impacts of climate change on transportation routes, and the role of the Internet, wireless communications, and computer processing power in the tracking of logistical and transportation flows. The final chapter provides an excellent closing to the handbook.

The scope of the fascinating theme of the handbook, that of global logistics, is vast and, hence, the topics covered in the commissioned chapters span a wide range of notable topics in both practice as well as research and provide the foundations for further discussions as well as research. The handbook can be used by those not well-versed in transportation and logistics to learn about important terms and issues as well as by more established operations researchers to find topics of interest to pursue further. The references following each chapter are also valuable contributions. The handbook takes one on a journey across regions, countries, and even continents as products are sourced and transported around the globe, identifying specific challenges from product consolidation to transportation to even cross-border issues. Underlying themes in the handbook of the importance of geography, time and cost, networks, optimization, and even that of trust and relationships, skillfully highlight the need for holistic approaches to international supply chains.