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Shipping and Logistics Management

Springer

Preface

This book serves to consolidate the knowledge we have acquired from being educators and researchers of the shipping and logistics industry. It is our aim, in synthesizing the principles of shipping, to describe the core elements and to discuss pertinent strategic and operations issues in the industry. We also aim to share research outputs that promote best practices in and improve the management of shipping and logistics activities.

The book is organized in four parts. Chapters 1–4 present an overview of the shipping business. The shipping business is essential to the development of economic activities as international trade needs ships to transport cargoes from places of production to places of consumption. Chapter 1 discusses several basic questions in the shipping business and these include the following: Why is there demand for shipping? What is a shipping system? Who are the actors in shipping? Chapter 2 examines the freight rate mechanism in the shipping market and introduces the concept of the "shipping cycle". There are four separate but interrelated markets in the shipping industry, namely, the freight market, which trades sea transport, the second-hand market, which trades used ships, the new building market, which trades new ships, and the demolition market, which deals with scrap ships. These four shipping markets are closely interrelated. Chapter 3 provides managerial insights into the four shipping markets and explains how these shipping markets are related to each other. In analysing the container shipping industry, it is desirable to understand the factors influencing the capacity of the bulk shipping industry, explain how these factors affect the container shipping market grounded on a sound theoretical framework, and find empirical evidence to examine these relationships. Chapter 4 reports a study in the container shipping industry based on the industrial organization paradigm that "industry structure determines the conduct of firms whose joint conduct then determines the collective performance of the firms in the marketplace".

Chapters 5–8 discuss issues related to shipping operations. Strategy is important in shipping because it facilitates the identification of business opportunities, gives an objective view to solve business problems, provides a framework to im-

prove internal and external collaboration, assists in controlling business activities, minimizes the negative effects when threats arise, helps make better decisions, guides effective allocation of resources, provides methods to manage changes, and nurtures consistency in the management of the shipping business. Chapter 5 discusses the development and implementation of shipping strategies. An important factor affecting organizational performance relates to the continuous growth of firms. Chapter 6 analyses the decision of capacity adjustment in the container shipping industry with empirical evidence. In container shipping, carrying capacity is one of the essential resources to sustain business growth. Although deployment of mega ships is a popular means by which carriers achieve efficiency gains, a balance between ship size and the scope of service is required when they determine their fleet mix. Chapter 7 examines how fleet size in terms of the number of ships and the average ship size can influence the performance of shipping firms. In addition, the SCOPE framework, identifying service frequency, customer value, optimal vessel size, ports of call, and extensive market coverage as the important elements for determining fleet mix in shipping services, is presented for managerial reference on the fleet size decision. Chapter 8 examines the liner shipping industry from the network perspective with a focus on developing an analytical framework for the development and operations of liner shipping networks.

Chapters 9–12 are related to intermodal transport, which involves door-to-door services encompassing ocean-going services and land-based transport services. Chapter 9 identifies the key actors in the container transport chain, including the primary customers, transport facilitators, and transport operators, and discusses their roles in container transport. The rise of intermodal transport has resulted in dramatic changes in the patterns of freight transport. In an integrated transport system, intermodal freight transport is characterized by various operations elements. Chapter 10 presents the INTERMODAL model using Hong Kong as an illustrative case to identify the operations elements of an intermodal transport system. Empty container management is a major cost item for many container shipping firms and reductions in handling costs can be profitable for them. Chapter 11 presents a model for managing empty containers with four major dimensions: strategic planning, procurement of empty containers, movement of empty containers, and technical efficiency. The importance of adoption of technology to enhance transport security has been well acknowledged in research and practice. Chapter 12 discusses the implications of the different types of institutional isomorphic forces affecting adoption of technology from the perspectives of container transport operators that have taken the initiative to adopt technology for container transport security enhancement and those that have followed other firms to adopt technology.

Chapters 13–16 focus on port management. Ports are places where there are facilities for berthing or anchoring ships and where there is cargo handling equipment to process cargoes from ships to shore, shore to ships, or ships to ships. Chapter 13 discusses the different roles of ports, the main facilities in container terminals, and the processes at container terminals. Chapter 14 starts with a discussion of the development of global container terminal operators and the inter-

organizational interaction model in analysing the container terminal community, followed by an evaluation of the efficiency of global container terminal operations. A PROFIT framework is provided for the reference of container terminal operators to plan and manage their operations and development. There is a need for the container port to operate as an "agile port" to cope with the uncertainties of the changing operating environment. Chapter 15 discusses the characteristics of agile ports. To facilitate the implementation of the concept of "agility" in ports, a ten-step implementation framework is presented. This structured ten-step approach provides a useful road map for the container port industry to adopt an agile port system. Chapter 16 focuses on discussing port development. The chapter begins with an introduction to the 4C forces (i.e., containerization, concentration, collaboration, and competition) to examine the operating environment of container shipping. With growing complexity in shipping services, there is a trend in the shipping industry to use the hub-and-spoke approach. In any shipping hub, firms involved in upstream and downstream activities operate together and their collective economic actions lead to the emergence of a transport complex economy.

This book consolidates selected research findings of significance and relevance to the practice of shipping and logistics management from our ongoing scholarly endeavours as educators and researchers in the field. We hope that the reader will find our book interesting and informative about the latest developments in the management and practices of shipping and logistics management.

The authors are grateful for the support we received from The Hong Kong Polytechnic University in the form of a grant (project code: J-BB77) to develop this book.

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