

Preface

Objectives of the Book

The competition today is no longer between individual firms but between supply chains. To survive and thrive in the competition, firms have strived to achieve greater supply chain collaboration to leverage the resources and knowledge of suppliers and customers. Internet-based technologies, particularly interorganizational systems (IOS), further extend the firms' opportunities to strengthen their supply chain partnerships and share real-time information to optimize their operations. The objective of this book is to uncover the nature and characteristics, antecedents, and consequences of supply chain collaboration from multiple theoretical perspectives.

The book conceptualizes supply chain collaboration as seven interconnecting elements: information sharing, goal congruence, decision synchronization, incentive alignment, resource sharing, collaborative communication, and joint knowledge creation. These seven components in concert are necessary and sufficient to define the occurrence of collaborative efforts. This definition and its components allow us to explain supply chain collaboration more precisely. The book also operationalizes collaborative advantage as five components to capture the joint competitive advantages and benefits among supply chain partners.

The book applies multiple theories (e.g., transaction cost, resource based, social exchange, trust-based rationalism, knowledge-based theories, relational view, and extended resource-based view) to explain the role of IOS in supply chain collaboration. Grounded in extensive literature, the book proposes a theoretical framework relating supply chain collaboration, its antecedents (IT capability, IOS appropriation, collaborative culture, and trust) and its consequences (collaborative advantage and firm performance). Reliable and valid instruments of these constructs were developed through rigorous empirical and statistical analysis. The methodology employed includes structured interviews, Q-Sort, and a large-scale study. Data were collected through a Web survey of U.S. manufacturing firms in

various industries and 211 usable responses were generated. The statistical methods used include confirmatory factor analysis and structural equation modeling (i.e., LISREL).

The book extends our understanding of the attributes of supply chain collaboration and collaborative advantage, the forces leading to the development of supply chain partnership, and issues involved in creating and managing the partnership. A better understanding of supply chain collaboration leads to the better management of it. The definitions and measures developed in the book allow us to better examine the important issues of (1) coordination, cooperation, integration, and collaboration, (2) joint value creation versus value appropriation, (3) common benefits versus private benefits, and (4) collaborative advantage versus competitive advantage.

Who Should Read the Book

The book will be useful for anyone who is interested in supply chain collaboration, its antecedents, and its consequences. It includes people from multiple disciplines such as marketing, management, information systems, strategies, and operations management. It also includes students (mostly graduate students), researchers, faculty, and practitioners of supply chain collaboration and management. The book will benefit people from multiple business functions such as purchasing/procurement, manufacturing/operations, distribution/warehouse, transportation/logistics, supply chain management, and/or information technology.

One of features of the book is to use a variety of the tools for theory building and empirical research methods. In this book, we provide a more accurate and comprehensive conceptualization of supply chain collaboration. It is the first of its kind to operationalize collaborative advantage. It develops valid and reliable instruments of supply chain collaboration, collaborative advantages, and their related constructs through rigorous statistical methodologies including structured interview, Q-sort method, large-scale Web survey, confirmatory factor analysis, reliability, convergent and discriminant validity, validation of second-order construct, structural equation modeling, and multi-group analysis using LISREL.

Organization of the Book

The book is based on Dr. Mei Cao's unpublished dissertation work in 2007. We revise and reorganize it by incorporating our published articles on this subject and the recent development in the field (with citation and reference list). The book is organized into eight chapters.

- **Chapter 1** (“Introduction”) gives an overview of supply chain collaboration and define key concepts and research questions.
- **Chapter 2** (“Theory and Theoretical Framework”) discusses ten different theories that can be used to explain supply chain collaboration and introduces the research framework.
- **Chapter 3** (“Antecedents of Supply Chain Collaboration”) defines and elaborates key antecedents of supply chain collaboration including IT resources, IOS appropriation, collaborative culture, and trust.
- **Chapter 4** (“Supply Chain Collaboration Characterization”) identifies and defines the nature and characteristics of supply chain collaboration as seven interweaving components of information sharing, goal congruence, decision synchronization, incentive alignment, resource sharing, collaborative communication, and joint knowledge creation.
- **Chapter 5** (“Collaborative Advantage as Consequences”) operationalizes collaborative advantage as consequences of supply chain collaboration with five elements of process efficiency, offering flexibility, business synergy, quality, and innovation.
- **Chapter 6** (“Structured Interview and Q-Sort”) describes the procedures for structured interview and Q-sort and reports the results.
- **Chapter 7** (“Large-Scale Analysis and Testing”) analyzes instruments and tests hypotheses through rigorous statistical methodologies including confirmatory factor analysis, reliability, convergent and discriminant validity, validation of second-order construct, structural equation modeling, and multi-group analysis in LISREL.
- **Chapter 8** (“Research and Managerial Insights”) offers additional discussion of the moderation effect of firm size and provides management insights and guidelines.

Supply Chain Collaboration
Roles of Interorganizational Systems, Trust, and
Collaborative Culture

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