

PREFACE

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In the last decade, we have seen major progresses in the development of the theories and practice of supply chain management in many industries. The most notable advances started in the apparel industry, dubbed “Quick Response (QR),” and shortly after, followed by the grocery industry, dubbed “Efficient Consumer Response (ECR).” Both industry-led movements have awakened major companies in the US and Europe on the need to integrate their supply chains. Academic research has followed, and courses on supply chain management are also standard at many business and engineering schools.

These movements, however, have involved companies that are in developed countries. Many of the leading edge supply chain examples that one can find in the literature are about powerful companies such as Dell Computer, Cisco, Seven-Eleven Japan, Wal-Mart, and Zara, etc. But the bulk of the focus has been on their excellent processes and systems in developed economies.

Yet the forces of globalization have resulted in a significant part of the supply chain of almost every industry being located in emerging economies such as China and India. Increasingly, these emerging economies also form the end-markets of a lot of industrial and consumer products. Our knowledge and experience of operating and managing a supply chain that involves emerging economies, however, is still very limited.

Supply chains are definitely increasingly global, as a result of the unprecedented growth of global trade. In 2004, global trade has grown by more than 10%, constituting 10% of the world’s GDP. In fact, between 1973 and 1999, global trade has grown annually at three times the rate of worldwide GDP growth. In 1970, global foreign exchange transactions occurred at a rate of \$10 billion a day. Today, that exchange is occurring at a rate of \$10 billion a second. A recent Accenture study¹ showed that, in 2005, major companies had 35% of their revenues generated outside their home market, and 31% sourced raw materials, semi-finished goods, or finished goods from outside their home

¹ Accenture Global Operations Survey, 2005.

market. Such figures were expected to grow to 42% and 38% respectively in 2008. Companies can no longer afford to ignore managing their supply chain outside of their home country effectively.

With the rapidly developing new economies such as China, India, Hungary, Vietnam, Costa Rica, Mexico, Brazil, etc., emerging economies are at the crossroads of almost all major supply chains. The BRIC countries (Brazil, Russia, India and China) constitute 15% of the economic size of today's G6, but they are expected to grow to surpass today's G6 in less than 40 years' time. The special cultural and organizational barriers, infrastructure development, technological advances, logistics challenges, and public/private collaborations, all play central roles in the evolution of supply chains in these parts of the world. Increasingly, these parts of the world are playing the roles of suppliers, design centers, final assembly, and markets. Both forward and reverse logistics are critical for successful supply chain management.

Given the physical, social and cultural characteristics of the emerging economies, managing supply chains there could be even more challenging than in developed economies. How can we manage supply chains well in emerging economies, coordinate information flows with multiple partners, tackle challenges such as unexpected disruptions, diversify the risks and increase flexibilities, be efficient but at the same time contribute to the social and environmental developments of these economies, and use supply chain concepts and practices to improve the economic welfare of these countries, such as basic infrastructure developments and disaster relief, are topics of heightened interest.

This book seeks to provide some insights on the answers to the above questions. It is our hope that the collection of articles will enable practitioners to gain insights on the developments, challenges and opportunities when operating supply chains in emerging economies; and learn about some innovative approaches and experiences by some progressive companies and thought leaders. We also hope that this collection will stimulate researchers to gain deeper understanding and develop methods in operating supply chains in emerging economies.

We have organized the book in three key sections. The first section develops the overall framework in managing global supply chains and developing strategies. The second section describes the challenges and opportunities in supply chain management of emerging economies – the infrastructure constraints, the logistics inefficiencies, and limitations in service operations; and discusses how to create opportunities in such adverse conditions. The third section is devoted to a number of industrial cases that showcase innovative approaches to gain excellence, and share insights and lessons from such experiences.

Global Supply Chain: General Strategies and Framework

There are five chapters on the general strategies and framework. In “On the Globalization of Operations and Supply Chain Strategies – A Conceptual Framework and its Applications,” Panos Kouvelis and Julie Niederhoff describe the forces that shape globalization and a framework to develop strategies. The authors illustrate how the framework can be used with the case of Acrilan, an acrylic fiber manufacturer.

As the emerging economies begin to mature, and the supply and demand points in a supply chain begin to shift, companies need to re-optimize the design of their global supply chain, so as to make the best use of their global resources. This is the subject of “Globalization and Emerging Markets: The Challenge of Continuous Global Network Optimization,” by Peter Koudal and Douglas A. Engel.

Many emerging economies have lower direct labor costs, and are so attractive offshoring locations. But there could be many hidden costs. The decision to offshore has to be based on a sound comprehensive analysis of the total landed costs, the tradeoffs of associated risks, and the business strategies of the company. David Pyke provides us with the approach to tackle this decision, and share with us his personal experience in helping companies to make such decisions, in his chapter titled “Shanghai or Charlotte? The Decision to Outsource to China and Other Low Cost Countries.”

It is not just commercial goods that would be of concern to operating supply chains in emerging economies. Such economies are also prone to natural disasters. In “Life-Saving Supply Chains: Challenges and the Path Forward,” Anisya Thomas and Laura Kopczak show how humanitarian relief organizations could make use of information technologies and supply chain principles to improve the effectiveness of relief operations. The private sector can probably learn from humanitarian disaster relief operations, as supply chain disruptions in emerging economies are not uncommon and we have to be just as responsive and efficient.

Eric Johnson describes how Mattel developed its capacity expansion strategies in “Dual Sourcing Strategies: Operational Hedging and Outsourcing to Reducing Risk in Low-Cost Countries.” The Mattel story can be used to develop better risk-hedging strategies, which is crucial given the often higher risk exposures in supply chains of emerging economies. Eric Johnson gives us a comprehensive treatment of all the risks in managing a supply chain.

Supply Chain Management in Emerging Economies: Challenges and Opportunities

There are six chapters in this section. India is one of the major emerging economies. Most of us think of India as a growing source of labor in software and computing technologies. But in fact, the supply chain of India encompasses many more products and services. In “Managing Supply Chain Operations in India – Pitfalls and Opportunities,” Jayashankar Swaminathan gives a thorough overview of the state of supply chain management in India, as both a source and market, and outlines the necessary steps in order to gain control of the supply chain.

Another major emerging economy is China. Given the size of the country and the fact that the logistics infrastructure of most of the inland of China is still not well developed, order fulfillment is a major challenge. In “Integrated Fulfillment in Today’s China,” Jamie M. Bolton and Wenbo Liu discuss what these challenges are, and how these challenges are changing as a result of China entering WTO. They also give some lessons, based on their experience, on what companies need to do as they increasingly make use of China as a part of the supply chain. In “Logistics Management in China: Challenges, Opportunities and Strategies,” Gengzhong Feng, Gang Yu, and Wei Jiang discuss in detail the transportation and logistics problems in China, but shows how the trends are changing and that opportunities can be created.

Hong Kong has long been a major logistics hub connecting the East and the West. But the economic growth of Southern China and its reliance on Hong Kong as a major outbound port has resulted in significant congestion and potential productivity degradation. In “Connectivity at Inter-Modal Hub Cities: the Case of Hong Kong,” Raymond Cheung and Allen Lee describe such problems and discuss ways to improve logistics flow.

Besides the forward supply chain, the reverse supply chain is equally important as companies start to develop emerging economies as their markets. Part of the reverse supply chain is the provision of after-sales customer service. In “Service Parts Management in China,” Steven Aschkenase and Keith Nash articulate the importance of managing service parts in China, and show that, by managing the service chain well, great values can be created.

Finally, supply chain flows in emerging economies are complicated by the existence of regulations, trade agreements, and other governance rules. In “DHL in China: The Role of Logistics Governance,” Kevin Leung and Paul Forster use the DHL experience to discuss how companies need to be cognizant of logistics governance factors so that they could overcome barriers and gain control.

Building Supply Chain Excellence: Innovations and Success Cases

There are eight chapters in this section. The first one deals with the use of information technology to support supply chains of agri-business in India. Despite the poor infrastructure and the highly inefficient supply chain, smart use of information technology can help to transform supply chains and make a difference, leading to benefits to all parties in the supply chain. In “Supply Chain Reengineering in Agri-Business – A Case Study of ITC’s e-Choupal,” Ravi Anupindi and S. Sivakumar give us the case of e-Choupal, in which such transformation had been successfully implemented.

Going against the trend of outsourcing, Esquel, an apparel manufacturer, developed a vertically integrated supply chain going all the way from cotton farms in Xinjiang, China, to fabric weaving and dyeing, garment manufacturing, and even retailing. In “Esquel Group: Going Beyond the Traditional Approach in the Apparel Industry,” Barchi Peleg-Gillai describes how Esquel can run such a vertically integrated supply chain with efficiency, social responsibility, environmental sensitivity, and sound business results.

Most global companies would develop supply chain processes using developed economies as the test-bed, and then localize the processes in emerging economies. CEMEX, a major cement manufacturer, did it the other way round. It used Mexico, a country with very difficult physical logistics infrastructure, diverse customer needs, and very demanding customers service requirement, as its test-bed for innovative approaches and methods; and then extend such processes to the rest of the world. In “End-To-End Transformation in the CEMEX Supply Chain,” David Hoyt and Hau L. Lee describe how CEMEX was able to use such an approach to become the world’s leader in cement manufacturing.

As the emerging economies grow and mature, the increasing middle class enables such economies to become major markets for consumer goods as well. Distributing in these economies is not easy. But IDS, a Li and Fung company (which has often been dubbed as *the Supply Chain Architect of Apparel and Consumer Goods*), created an innovative approach to distribution. It first unbundled the multiple distribution services, and then re-integrate them to give the greatest values to customers. This is recorded in “The IDS Story – Reinventing Distribution,” by Ben Chang and Joseph Phi.

As companies source materials from emerging economies that are in underdeveloped countries, the risk of supply disruptions is increased. Starbucks Corporation has recognized that sustainability of the supply bases is an important objective of a supply chain. In “Building a Sustainable Supply Chain – Starbucks’ Coffee and Farm Equity Program,” Hau L. Lee, Stacy Duda, LaShawn

James, Zeryn Mackwani, Raul Munoz, and David Volk describe the Starbucks initiative to help farmers in Africa, East Asia and Central America. A sustainable supply chain is also a socially-responsible supply chain.

Since emerging economies are just beginning to be growing markets for industrial and consumer goods, multi-national giants have not penetrated in many such economies. This provided a window of opportunity for smaller players to build its business. The value proposition can be based on sound customer service. In “Building a Distribution System in Eastern Europe: Organic Growth in the Czech Republic,” Eric Johnson describes how this can be done, and draw learning lessons from this successful case.

Emerging economies often made use of highly focused industrial and logistics parks as a way to attract foreign investments to develop its manufacturing sector. In “A Path to Low Cost Manufacturing for Integrated Global Supply Chain Solutions.” Wesley Chen describes the experience of Solectron in making use of the Suzhou Industrial and Logistics Park to create its manufacturing center of excellence. It requires a lot of collaborative work with the local government, but the payoffs are huge.

Finally, in “Transforming an India Manufacturing Company: the Rane Brake Lining Case,” Ananth Iyer and Sridhar Seshadri describe the journey of Rane Brake Lining, an Indian manufacturing company. Emerging economies are often not known for high quality standards, but Rane Brake Lining ran against the conventional wisdom. Its persistent pursuit of quality management is a lesson for others in emerging economies.

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