



Chapter V

From EDI to Internet Commerce in Supply Chain Management: The Singapore Experience

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This chapter provides an overview on the use of business-to-business (B2B) eCommerce by Singapore companies as a means of streamlining their procurement and transportation activities. Specifically, it addresses how Electronic Data Interchange (EDI) and Internet have proliferated in Singapore from 1990 to the present, and the efforts needed to sustain its growth. Challenges in implementing B2B eCommerce in procurement and transportation are also discussed, so that companies can avoid similar pitfalls when planning to implement these technologies with their business partners.

INTRODUCTION TO SINGAPORE'S ECONOMY

According to the Economic Development Board of Singapore (EDB), manufacturing is one of the key drivers of the Singapore economy with a contribution of 25% to the country's Gross Domestic Product (GDP). The

largest contributor to Singapore's total manufacturing output is the electronics industry, comprising four key sectors namely computer, semiconductors, data storage and consumer products, which have been growing rapidly since the 1960s. In 1997, the electronics industry produced an output of SGD70 billion, accounting for 53% of total manufacturing output. The second largest contribution came from the chemical industry, which is made up of the petroleum, petrochemical, specialty chemical and pharmaceutical sectors. This industry has attracted investments of nearly SGD3.0 billion, with an output of SGD33 billion in 1997.

The electronics and chemical industries import large quantities of raw materials from overseas, process them adding value in Singapore and export the finished goods to overseas markets. Thus, transportation costs in and out of Singapore are high for these companies. By optimizing their supply chain networks, these companies will be able to reduce their overhead costs and achieve faster turnaround time. This will allow them to be more competitive and boost the national output for Singapore. In 1997, the total output generated by these two industries was about 75% of the total national output of SGD131 billion.

Given the trend towards global manufacturing, just-in-time (JIT) production and a very short time-to-market, conventional ways of managing supply and distribution chains are changing. Logistics providers are no longer just managing warehouses or offering isolated transport services. Instead, logistics companies here offer integrated solutions with regional coverage and new value-added services such as reverse logistics, product configuration and international procurement. With the increased demand on outsourcing from manufacturers, more third-party logistics services are expanding their businesses to meet this demand.

Total trade between Singapore and the rest of the world has been expanding steadily over the years. In 1998, Singapore's external trade amounted to SGD354 billion which is almost three times the nation's Gross Domestic Product (GDP), according to the Trade Development Board of Singapore (TDB). As a result, Singapore's logistics industry has been expanding in tandem with development in external trade and new ways of doing business, both in terms of volume and the range and level of services offered. Recognizing the robust prospects ahead, the Singapore Government has continually developed and strengthened the country's trade logistics capabilities. This has helped Singapore become one of the busiest seaports and airports in the world.

Strategically located at the heart of the Asia Pacific, Singapore serves as a gateway to the world's most dynamic growth region. With the continual

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