Chapter 3
Evaluation of B2B Pharmaceutical Supply Chain in Australia

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ABSTRACT
The pharmaceutical industry is one of the most innovative and research-intensive industries in the world. For example, five out of the top global Research and Development (R&D) companies were pharmaceutical companies. However, the industry is lagging behind other industries in adopting Business-to-Business (B2B) and supply chain technologies. With supply chain costs constituting around 25-40% of an organization’s operating expenses, it is imperative for senior pharmaceutical executives to minimize this cost. Hence, the main objective of this chapter is to identify key B2B e-commerce management, evaluation, and benefits realization factors and challenges within the Australian pharmaceutical supply chain. The results of this study suggest that pharmaceutical companies not only need to carefully examine their B2B investment management and evaluation practices but also must invest in using appropriate evaluation methodologies for identifying and managing benefits, risks, and costs associated with their investments in B2B and supply chains.

INTRODUCTION
The value of the global pharmaceutical industry has been expected to grow by 5-7% to US$880 billion in 2011 (ABPI, 2012) and is likely to reach US$1,200 billion by 2016 (IFPMA, 2012). The pharmaceutical industry is one of the most innovative and research-intensive industries in the world. For example, five out of the top global research and development (R&D) companies were pharmaceutical companies (IFPMA, 2012). It is expensive to conduct R&D as it costs an average of US$1.30 billion to develop a single drug (IFPMA, 2012). In Australia, the pharmaceutical industry has an important part in the production and supply of medical/healthcare services and
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products to the population and had received approximately US$6 billion from pharmaceutical benefits scheme (PBS) sales in 2011-2012 (DOI, 2013). It is also one of Australia’s biggest exporter earners, totaling more than US$3.8 billion in 2011-2012 (DOI, 2013). The industry currently employs more than 40,000 people and spent almost US$1 billion on R&D in 2010-2011 (DOI, 2013). International Data Corporation (IDC) has forecast that total information communication technology (ICT) spending by the Australian healthcare and pharmaceutical organizations will reach US$2 billion by 2017 at an annual growth rate of 1% and a large proportion (65%) of this spending is likely to be dominated by investments in telecommunications and hardware such as B2B e-commerce and pharmaceutical supply chains (Mukherjee & Ditton, 2013).

With supply chain costs constitute around 25-40% of an organization’s operating expenses, it is imperative for senior pharmaceutical executives to minimize this cost (O’Daffer & Mooraj, 2010; Rego, Claro, & de Sousa, 2013; Scheller & Smeltzer, 2006). The adoption and implementation of business-to-business (B2B) e-commerce within the Australian pharmaceutical supply chain can assist in setting up a commercial platform which improves cycle times, ensures that products are provided when required, and supports electronic transactions among different stakeholders such as pharmaceutical companies, distributors, wholesalers, hospitals, pharmacies, medical supply importers and exporters, regulators, and other players in the healthcare system. Effective adoption and implementation of B2B e-commerce and supply chain management practices can assist these organizations to improve efficiency in delivering requisite medical products to the general public through order consolidation, to facilitate to trade in real-time, to build worldwide relationship with partners, suppliers and customers, and to improve their purchasing strategies via systems integration and real-time information sharing (Bhakoo, Singh, & Sohal, 2012; de Vries, 2011; Lillrank, Groop, & Venesmaa, 2011). The use of appropriate ICT (e.g. bio-technologies and integrated B2B e-commerce and medical supply chain) can also help these organizations to leverage its capabilities to drive, sustain, and realize the expected benefits in developing much needed drugs, to minimize supply chain and purchasing costs, and to create value-added support services and products (Houghton, 2002; Schotanus, Telgen, & Boer, 2010; Standing, Standing, & Lin, 2008). The technologies can also be adopted to assist in reducing the cost of procurement and inventory, increasing the speed of transactions, tracking both the suppliers and your distributors, and gaining competitive advantages. The use of e-commerce technologies in conjunction with video-teleconferencing equipment, for example, enables: (1) health professionals to conduct interviews with their patients or to observe and to diagnose the condition of the patients and direct the medical professionals at the other end to provide treatment of the patients; (2) pharmaceutical companies or medical distributors to market and supply their services and products more effectively via online detailing by responding to questions from medical professionals in real time and by providing medical information on demand; (3) to conduct important procurement, distribution, and inventory management functions between the central and remote sites within a hospital (Cady & Finkelstein, 2013; Clifton, Byer, Heaton, Haberman, & Gill, 2003; Houghton, 2002; Khan, Faucett, & Brown, 2014).

Evaluation and benefits realization of pharmaceutical supply chain are important for pharmaceutical companies and their stakeholders (Yu, Li, Shi, & Yu, 2010). However, factors relating evaluation, benefits realization, and management of pharmaceutical supply chain remain poorly un-