



Chapter XVII

Enabling the Glass Pipeline: The Infusion of Mobile Technology Applications in Supply Chain Management

Umar Ruhi
Wilfrid Laurier University, Canada

Ofir Turel
McMaster University, Canada

Abstract

In recent years, the prospect of information exchange independent of time and place has been a compelling driver for organizations worldwide to adopt mobile technology applications in their various business practices. In particular, the application of mobile technology in Supply Chain Management has drawn widespread attention from researchers and practitioners who endorse adaptive and agile supply chain processes. This chapter discusses the applications of mobile technologies in various areas of supply chain management and the potential benefits of those technologies along the dimensions of reduced replenishment time and transactions and billing cycles. Among other discussions, the role of mobile procurement, inventory management, product identification, package tracking, sales force, and field service automation technologies is highlighted. To substantiate the basis for adopting mobile technologies for supply

chain management, different market drivers for mobile applications are exemplified and applied to the three macro-level processes of supplier relationship management, internal supply chain management, and customer relationship management; a resulting typology of mobile supply chain management applications is presented.

Introduction

The nature of competition is shifting away from the classic struggle between companies. The new competition is supply chain vs. supply chain. (Taylor, 2003, p. 3)

In recent years, we have seen various organizations from different industries focus their competitive strategies on improving their supply networks rather than concentrating on directly contending with specific companies. Companies such as Wal-Mart, Dell, and Proctor & Gamble not only have made significant headway in optimizing their own supply chains, they also essentially have redefined the way business is done in their particular industries. Their competitors have had to follow suit in order to maintain their own competitive position in the marketplace.

A major factor that has contributed to more efficient supply networks is the increasingly unhindered and efficient flow of information within and among supply chain partners. Several researchers and practitioners have commented on the importance of information flow in effective supply chains (Chopra & Meindl, 2003; Handfield & Nichols, 2002; Kalakota, Robinson & Gundepudi, 2003). Consequently, much has been said about the role of technology in enabling effective supply chains (Holten, Dreiling, Muehlen & Becker, 2002; Knolmayer, Mertens & Zeier, 2002; Poirier & Bauer, 2000).

Mobile technologies and applications offer an advanced level of efficient and effective communications among business partners in supply chains. These applications augment the static nature of their predecessor, e-commerce, phone, and fax-based technologies, by adding flexibility and spontaneity to extant business processes. Technologies in mobile procurement, inventory management, product identification, package tracking, sales force, and field service automation are expected to change the current landscape of Supply Chain Management (SCM). It is expected that mobile technologies will bridge the functionality gap in traditional Electronic Data Interchange (EDI), Enterprise Resource Planning (ERP) and Web-based SCM technologies by providing the end-to-end transparency that can help businesses perform better through improved supply chain planning and execution (Kalakota et al., 2003).

In this chapter, we provide a value proposition for mobile SCM technologies and applications. By highlighting the benefits of the latest mobile applications, this chapter aims to explicate the role of these technologies in transforming integrated and collaborative supply chains into adaptive supply networks. We start this discussion with our working definition of SCM, which will be the gate to our analysis of various technology applications. Following that, we discuss the current state of information technologies in SCM and subsequently rationalize the business drivers for implementing mobile SCM

17 more pages are available in the full version of this document,
which may be purchased using the "Add to Cart" button on the
publisher's webpage: www.igi-global.com/chapter/enabling-glass-pipeline/19248

Related Content

Carbon Price Drivers: An Updated Literature Review

Julien Chevallier (2013). *International Journal of Applied Logistics* (pp. 1-7).

www.irma-international.org/article/carbon-price-drivers/108515

Parallel Algorithm of Hierarchical Phrase Machine Translation Based on Distributed Network Memory

Guanghua Qiu (2022). *International Journal of Information Systems and Supply Chain Management* (pp. 1-16).

www.irma-international.org/article/parallel-algorithm-of-hierarchical-phrase-machine-translation-based-on-distributed-network-memory/282737

Supply Chain Dispute Resolution: A Delphi Study

Frank Wolfand Lee Pickler (2010). *International Journal of Information Systems and Supply Chain Management* (pp. 50-65).

www.irma-international.org/article/supply-chain-dispute-resolution/45192

A Strategic Framework for Managing Failure in JIT Supply Chains

Jaydeep Balakrishnan, Frances Bowneand Astrid L.H. Eckstein (2008). *International Journal of Information Systems and Supply Chain Management* (pp. 20-38).

www.irma-international.org/article/strategic-framework-managing-failure-jit/2510

An Introduction to Sustainable Supply Chain Management and Business Implications

Gowri Vijayanand Nitty Hirawaty Kamarulzaman (2017). *Green Supply Chain Management for Sustainable Business Practice* (pp. 27-50).

www.irma-international.org/chapter/an-introduction-to-sustainable-supply-chain-management-and-business-implications/161154