Chapter 18
An Analysis of Issues and Possible Remedies in the Adoption of RFID in Retail Supply Chains of India

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EXECUTIVE SUMMARY

This case study examines issues faced by Indian retail industry in the adoption of RFID technology as an enabler of efficient retail supply chains. An in-depth case study of Big Bazaar (Future Group) was conducted for a period of two months for identifying and categorizing the issues in RFID adoption.

INTRODUCTION

Radio Frequency Identification (RFID) is an enabling technology which carries immense potential for transforming supply chains and has been adopted by world leaders (e.g., such as Walmart) in Organized retail. And with the increased insurgence of global brands and global retailers, the existing retailers face the threat of being wiped out of the retail map if they do not equip themselves with latest technologies in global supply chains. RFID finds a number of applications in various industries. It can help hospitals locate expensive equipment more quickly to improve patient

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care, pharmaceutical companies to reduce counterfeiting and logistics providers to improve the management of moveable assets. It also promises to enable new efficiencies in the supply chain by tracking goods from the point of manufacture through to the retail point of sale (POS). But while the technology has received more than its fair share of media coverage over the last 12 to 18 months, many are still unfamiliar with RFID and the benefits it can offer.

During early 2005, when Walmart made it mandatory for its suppliers to use RFID, the technology gained rapid adoption in the retail industry. Other big retailers like Carrefour and Tesco followed suit. Indian retail landscape has also seen major transformation in the last decade. The emergence of global and multinational supply chains coupled with the emergence of organized retail outlets has transformed the scenario. With the emergence of organized retail, Indian retailing industry is also witnessing issues, particularly related to supply chains calling for an all-round transformation of supply chains in India. While global supply chains have improved through web-integration, supply chains in India are still far-behind in the competitive landscape.

The main objective of this paper is to identify issues that preclude widespread adoption of RFID in Indian retail industry and to offer solutions that may help overcome these issues.

LITERATURE REVIEW

A Brief Review of RFID Technology

The RFID value chain involves three parts: tags, readers and enterprise integration software that power these systems. Tagging is done similar to barcode and tags can be placed at an item level, pellet level, container level or on the transporting vehicle level depending upon the cost efficiency obtained from the product. These tags are scanned by tag readers. Unlike barcodes which require line of visibility between the barcode and the reader, tag readers can read barcode anywhere between 1-30 meters of range. When coupled with global positioning systems (GPS), RFID technology can help track the product or shipment anywhere in the world.

The data generated by the application software can interface with other systems, such as, Enterprise Resource Planning (ERP), Supply Chain Management (SCM) and Customer Relationship Management (CRM), used in an enterprise.

There are three types of RFID tags: active, passive and semi-passive. When most people talk about RFID, they talk about passive tags. In passive tags radio frequency is sent from a transmitter to a chip or card. Passive tags do not have power cell and it uses the transmitted signal to power itself long enough to respond with a coded

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