Chapter XV
Technology and Retailing Firms:
Challenges Ahead

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Technology is associated as one of the principal factors of production and economic growth of a country or development sector as an agent of growth and prosperity. However, retailing sector which is part of the distribution side of the economy has also contributed significantly to advances in technology, economic growth and the betterment of society. Technology and retailing have been inextricably linked both in terms of their development and their ability to deliver unique benefits to consumers (Tamilia and Reid, 2007). Increasing globalization and competitiveness in the retail environment is thrusting retail firms to reach high levels of consistent experimentation of new technology in store management, product information, and customer services. Technology management can be used to help retailers test new ideas and implement the most successful ones. However, human behavior is particularly important in the retail setting, where projects are generally focused on testing new concepts, increasing collaboration, and implementing new technologies (Thomas *et al,* 2008).

In the scenario of growing competition, retailer firms can also establish how a customer relationship management and monitoring system ensures the buying decision making process through the use of joint project teams and facilitating technology. Development and innovative applications of e-commerce transactions, as well as the integration of available technology, can provide an organization with a unique

opportunity to remain competitive within today's global business environment. Although technology plays an important role in gaining a competitive advantage for organizations worldwide, information technology professionals, consumers and e-retailers ensure proper security measures to overcome harmful impact of the misuse of these same technologies (Medlin and Romaniello, 2008).

TECHNOLOGY SHIFTS IN RETAILING

The history of retailing also dates back with a history of the role of technology in society. A bird's eye view at the evolution of retailing reveals that technology has played a role as the primary enabler of change. As technology grows sophisticated, the consumer's expectations also swell exponentially. In fact the convergence of a few key technologies is enabling that change. Smart cards payment technology has driven new revolution in retailing as this technology has not only helped in increase the quick buying decisions of consumers but also attracted large mass of potential customers into retail gamut. Smart cards have offered a wide variety of applications that could revolutionize payment transactions, reduce costs, and spur online purchasing. Despite the benefits these electronic purses offer, a number of issues inhibit their widespread use, especially in open systems. A tested technology, smart cards can store various types of encrypted information as well as cash balances and digital signatures. A secret key can be used to secure e-commerce transactions as well as protect the card contents. These keys are vulnerable to attack, however, and the stored-value feature is attractive to international money launderers. Despite some risk factors the smart cards are globally accepted by the retailers (Kearns and Loy, 2003).

There has been a significant change in retail trading over the years. Modernization, systematization, and consolidation are the catch phrases and keys to understanding retail. The present age is that of rocket science retailing which is an act of blending the traditional forecasting systems with the prowess of information technology. It fuses data and instinct with computer models to create a high-tech forecasting system supported by a flexible supply chain. The need is to evaluate not what the retailer sold but what it could not sell and what it could have sold had the inventory been available. Merchandise decisions have become more complex and the penalties for errors even steeper. To reduce the fallouts and to increase the customer satisfaction, merchandise planning has become all the more important. A new set of software tools and sophisticated techniques have emerged, which promise to revolutionize the entire merchandising chain, from buying to stocking to pricing. The latest techniques used for efficient inventory management include vendor managed inventory, forecasting techniques, inventory classification, com-