

EMERGING MODELS IN RETAIL TECHNOLOGY

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ABSTRACT

The Indian retail sector has been observed as the largest employer in the recent years. The Indian retail market accounts for 10-11% of gross domestic product. Various prominent modern retail formats have led to the sustainable growth in this segment. Large global players have entered this sector due to its large market potential. Retail mix is influenced by technology and E-Commerce to a greater extent. Application of indigenous technology is witnessed in the organized retail formats like hypermarkets, departmental stores etc. Usage of technology-driven features for delivering enhanced customer support and services has become crucial part of the present functioning of retail stores. Similarly online retailing has gained significant momentum in India in the recent decade. More number of retail stores is showing great interest in e-tailing due to changing customer preferences towards online shopping. Technology has been extensively used in integrating supply chain among the major retailers. Application of software for establishing link with the POS terminal and the warehouse is widely used for saving time and efforts. Retailers are found to look for alternative channels like internet for improving sales amidst heavy competition. This paper discusses the opportunities and challenges existing for application of technology in organized retail.

Keywords: Retail Sector, Technology, Software, POS Terminals, Internet

INTRODUCTION

The retail sector is divided into Organized and Unorganized segments.

Organized retailing includes trading activities of licensed retailers i.e., who are registered for sales tax, income tax etc. It includes hypermarkets and corporate retail chains. Unorganized retailing includes low-cost stores such as kirana shops, convenience stores, street vendors etc. The size of India's retail segment is presently estimated to be around \$450 billion. The organized retail sector accounts for 5% of the total industry. By 2020, the country is expected to represent 17 per cent of the world's working age population. The retail and wholesale sector is the second largest employer in India after agriculture accounting for over 9% of all jobs and its share in GDP equals 14%.

Retailing is seen as a place for shopping with convenience. The shopping environment and design are major factors influencing the customers to visit and make purchases. Compared to the traditional mom and pop stores the organized retail formats such as super markets, malls, convenience stores are quite preferred by various customer groups due to convenience, easy accessibility and availability of wide range of merchandise. Changes in the consumers' life

style has paved for the rapid growth in organized retail in India. The retailers enable customer satisfaction by offering wide assortment mix, attractive store ambience, effective and personalized customer services etc. The food and grocery retail sector is being identified as the largely demanded segment of organized retail. The customer groups in the modern economy seek value for money for the products purchased by them which is one of the key success areas of retailers. Retailers with the help of technology can provide sophisticated shopping experience to the customers.

The era of globalization has witnessed with consumers who are well aware of various brands of goods and services that are available in the market. The demand for quality products at affordable cost is found among the Indian customers. Also the influence of western culture specifically in shopping behavior among the Indian customers is spreading at large.

Organized retailers of the Indian economy are exposed to varied applications of IT infrastructure which ranges from POS systems to ERPs. Many large retailers with more than 30 stores use ERP packages for back office operations. On the other hand a number of small retailers are found to depend on the vendor managed inventory systems. Wireless LANs are being adopted in order to support applications such as email, web browsing, and other conventional enterprise applications.

Retailers accrue the following benefits from such applications:

- Reduction in costs;
- Efficiency in operations;
- Speeder processing times;
- Quick decision-making and Effective customer service;
- Effective management of inventory through E-commerce;
- Facilitation of online shopping etc;

The cost and productivity benefits of IT applications are higher transaction speed, reduction in queuing time, efficient stock holding etc. The Marketing benefits includes Effective data handling , quick responses towards external environmental conditions, maintenance of databases of customers and enabling of faster movement of merchandise and hence increase in selling space etc.

Popular Retail Players

Pantaloon Retail is India's largest retailer which is part of the Future group operates over 1300 stores including Big Bazaar, Food Bazaar etc.

Reliance Retail operates 1300 stores including various formats such as supermarkets, hypermarkets and lifestyle stores.

Aditya Birla Retail is the major retail arm of Aditya Birla Group and operates around 500 supermarket and hypermarket outlets.

Shoppers Stop which is part of the K Raheja Group operates around 265 stores in India. This includes 12 Hyper city hypermarkets.

Trent unit of the Tata Group operates various formats including Westside, Star Bazaar etc.

OBJECTIVES OF THE STUDY

1. To study the growth of Indian retail sector.
2. To analyze the application of current models of technology in Indian retail.
3. To study the benefits of retail technology in various formats.

SCOPE OF THE STUDY

The report talks about the technology transformation in the retail industry in our country. This study also analyses the growth opportunities prevalent in the organized retail segment with the adoption of indigenous technology. The report provides a clear picture of the specific technology-driven stores in the Indian scenario. It helps the retailers, suppliers and other parties involved in distribution to develop various application software that would help into efficient operations of logistics.

METHODOLOGY

Research Methodology is the systematic gathering, recording, and analysis of data about issues relating to marketing products and services. The goal of marketing research is to identify and assess how changing elements of the marketing mix impacts customer behavior.

Secondary data

Secondary data has been collected for the purpose of the present study. This includes various books, magazines pertaining to retail technology. Information from online sources is too used in this study.

Technology Based Retail Models in India**E-Tailing**

E-tailing is the practice of selling retail goods on the internet. E-tailing helps retailers build loyal customers and is aimed at selling in areas where they don't have a physical presence. Selling on line also allows retailers to display their merchandise in any part of the world without additional expense. This advantage lets on-line retailers expand their market to global proportions or target an extremely focused segment. At present there are 4 million Internet users in India and the number is growing. Computer Hardware, cinema, Books, Music cassettes /CDs, travel tickets and gifts are sold through the net in a big way. The leading players include EBay, Papal, and Amazon etc. Other retail innovations include Smart Cards, E-Cash, multimedia kiosks, Customer loyalty cards.

Technology has a profound impact on the retail sector. Online retailing has grown significantly in the Indian scenario. E-tailing helps the retailers to reach the target audience through internet. According to a recent estimate made by Technopak the total sales on the internet is about to touch USD 70 billion marks by 2020 in India. Popular online retailers are Home Shop 18, eBay India, Staples Inc etc. Higher purchasing power and disposable income has led to the evolution and growth of online retailing in India. Rising internet penetration is also a major cause for the boost in e-tailing in the Indian scenario.

EBay India Census has found that brands such as Sony, Nokia, Samsung, Apple and Reebok continue to top buyers' charts. Lifestyle products, such as cosmetics, jewellery, watches, fashion products and fitness equipment account for over 45% of eBay's sales in India.

Tata Indicom has launched its e-tail market at ichoos.in. This company provides online mobile connection services through this portal.

Pantaloon Retail (India) Limited (PRIL), has launched its online retail arm-futurebazaar.com.

Epos

The data collection of every transaction at the store's point of sale is crucial for any retailer. Point-of-Sale (POS) is the physical location where goods are sold to customers. Increasing the size of the sales counter is not possible, so customers were forced to endure long lines during congested periods such as holidays. Studies show that as many as one in ten customers tend to abandon the line while waiting, leaving the store without making a purchase. During high-volume sales periods, salespeople with these mobile POS terminals can be positioned throughout the store.

The customers who pay by credit card, the full transaction can be completed and a store receipt printed where it is convenient for the customer. Mobile "line busting" store staff can move through checkout lines with handheld computers to accelerate the checkout process. The sales staff can decide about handling transactions. For credit card customers with a small amount of merchandise, the entire transaction may be completed while the customer is still in line. For other customers, products purchased could be scanned with a barcode scanner and a ticket printed with prices and a master barcode on it. While waiting in the line, the customer could recheck the prices printed on the ticket. After reaching the checkout counter, the ticket is scanned, the total amount is recalled from a backend system, and the transaction can be completed without the clerk needing to process manually.

Desktop scanners can also be attached to backend systems through wireless LAN. This benefits retailers with reduced cabling costs and increased flexibility in store operations.

Electronic Point of sale equipment is also used for storing information on customer purchases, sales of merchandise mix, mode of payment, customer loyalty reference number and the date and time of transaction. The EPOS can provide adequate information on the buyers' opinion towards their promotional activities. This also acts as an important source of marketing information to the retailers that could assist in the research activities.

Campaign Management

Brand building is one of the major parts of a retailers marketing strategy. Planning towards campaign programmes would help in supporting the brand building activities of the retailers. It involves reading the data from loyalty programmes, EPOS etc. These data are then fed into the campaign management database for planning and implementing a campaign. For this purpose, the personal data of the customers are collected. The purpose of implementing a campaign is to integrate with customers. Based on the data collected the retailers can develop appropriate sales, distribution and other promotional activities.

Bar Codes

In the Indian retail sector major FMCG firms such as HUL, Nestle, Britannia, and Dabur etc have barcode their merchandise. Bar codes are small black bars and white spaces with 13-digit product reference numbers for easy identification and handling of goods. These barcodes are widely used as a unique reference number on the package of the goods that helps the billing of customers with speed and accuracy.

Plastic Money

In this modern era customers widely use plastic money i.e. credit as well as debit cards while purchasing products. The automation of credit card transactions has resulted in safety and ease of making purchase for the customers. The information which is provided on the credit card is coded on the back of the card using magnetic strip which can only be decoded by a special device known as swipes.

Data Warehouse

Organized retailers make investments in data warehouses. These warehouses collect data from internal sources such as EPOS, Loyalty cards and from external sources that includes third party suppliers, market research information system etc. These data are analyzed based on which the customer retention strategies are implemented by the retailers. The concept of data mining involves analyzing various types of data to determine consumers' buying patterns. With the help of data mining the retailers can understand the customer loyalty patterns, price sensitivity of customers, frequency of purchase, spending patterns and brand image among the customers. Other solutions to understand consumers' buying patterns include implementation of DSS and Executive information system. Shoppers' Stop with the help of data warehouse was able to understand the consumers' perceptions of its merchandise mix based on which it launched the designer wear store BUZZ.

RFID

Radio Frequency Identification is tags that are embedded in products that help in tracking of the products through various reading devices. International retailer Wal-Mart has announced that all their suppliers should implement RFID technology in their operations. Germany's leading retailer Metro has made arrangements for implementing RFID in its operations. RFID systems use radio signals consisting of digital data such as product code, size etc which enable generation of one-to-one selling propositions when it interacts with other devices. RFID also helps to make easy product tracking in the store and in shelf which helps to determine the merchandise availability. Major software solution organizations such as Wipro, Infosys and CTS focus on RFID applications to the retailers. There are two general types of RFID – passive and active. Passive RFID uses small, inexpensive tags that contain a unique identifier. Passive RFID tags contain no battery, and are energized by RFID readers located within a few meters. The typical uses of passive RFID are to track inventory as it moves through doors, loading docks and in other retail operation. Active RFID tags contain a battery and are slightly larger and more expensive. The current generation of active tags uses standard 802.11 wireless LAN technologies and can interoperate with other devices also such as barcode scanners and PCs, on a wireless LAN. Active RFID tags can communicate with access points as far as 150 feet (46 meters) away.

Supply Chain

Retailers use modern technologies for integrating their supply chain operations. With the adoption of EDI reduction in stock-holding costs are reduced. Logistics costs are estimated at about 13 percent of GDP compared with well below 10 percent in most

developed economies. Technology has lead to the development of various services in logistics such as Collaborative, Planning, Forecasting and Replenishment (CPFR), VMI, QRDS etc. Extredge POS system helps retailers to reduce maintenance costs and other costs.

It has gained momentum in the POS system market in India. It helps to reduce maintenance costs and cost of acquisition. This can lead the retailers to reap competitive advantage.

Advanced Shipping Notice (ASN) from the supplier is received by the retailers' system that helps them to plan their inventory requirements. Proprietary EDI systems are developed by large retailers to exchange data with vendors. Wal-Mart and other global retailers have made arrangement to manage the inventory through vendors. Tanishq uses Gold-mine a web based initiative that connects with all tanishq outlets and the supply chain unit.

Collaborative Planning, Forecasting and Replenishment are one of the major initiatives taken by international retail chains that integrate the whole supply chain processes and thereby increasing efficiency. It is a set of business processes where the trading partners agree to common goals, develop operational plans and electronically collaborate for updating sales forecasts and replenishment plans. This helps to boost sales and reduce inventory.

Technology in Customer Service

Technology is a vital source to improve customer service. Wireless technology can improve the customer experience in obtaining assistance with merchandise or other questions. Self-help kiosks can be easily placed around a store giving customers touch-screen access to store directories, inventory information for all nearby stores in a chain, current sales, and product information. With the adoption of Ingersoll Rand Retail solutions, appropriate selection of refrigerated products based on customer requirements are enabled by the retailers.

Security Systems

Through effective scanning system, the customer's finger prints are converted into digital form, which is compared with customer's identity card and verified. Wireless computing inside the store helps to retrieve and access data with high speed. With the help of video record the retailer can keep track of all activities in the store. Alarms inside the store also can ensure adequate safety at times required. Other security measures include POS data mining software solutions, source tagging programs, etc.

Managerial Implications

Retailing in India is a major employer next to agriculture. Different organized retail formats are upcoming with unique product and service offerings. The customer-driven sector has to be streamlined with the usage of modern technology in various retail store offerings. This may include elements like customer service, visual merchandising, billing transactions, security alerts so on and so forth. Technology plays predominant role in these store operations. Adopting the right technology can boost the retail sales as well as can provide better shopping experiences to the customers. Challenges involved in the Traditional retail formats is overcome with the help of technology like RFID, E-Pos etc. The store functions can be better enhanced by applying technology driven software. It also plays a vital role for effective distribution operations.

LIMITATIONS

- The study is organized based on secondary data only.
- The information collected is restricted due to time constraints.
- In-depth study was not made due to constraints in time and money.

CONCLUSION

Successful business firms today should ensure build technology for their processes. Wireless technology has a number of innovative uses in retail that can improve operational processes, improve the customer buying experience, give better visibility for management into store operations, and ultimately improve the bottom line. Retailers by adopting various technological innovations could attain success in the competitive environment. The applications of technology in retail sector are also an integrated part of brand building strategy for the retailers. The benefits of launching technology in their operations have to be communicated across various segments of the retail business.

REFERENCES

1. Banga, Rashmi “Critical Issues in India’s Services-Led Growth”, Working Paper (171) Indian Council for Research on International Economic Relations 2005
2. Christopher Martin, “Marketing Logistics”, Butterworth Heinemann Oxford, 1997.
3. David Biederman, “ India's economy is booming but weak infrastructure hampers growth” Shipping Digest, pp 90. 2008
4. Dr.Paul M.Swamidass, Satish Subramanian, ‘Tuning in (RFID)’, Retail Biz, October 2004, pp.23-25.
5. Gilbert David., “Retail Marketing Management”, Pearson Education, New Delhi, pp.141-155.
6. Mayank Jain, HarshalGaikwad, ‘Security Check’, Retail Biz, August 2004, pp.31-33.
7. Singh Manmohan, ”Beefing up Security”, Retail Biz, August 2004, pp.48-49.
8. Saumya Bhattacharya, God Help Employers,Business Today, Dec, 2009