# CHAPTER - I

# INTRODUCTION AND DESIGN OF STUDY

## 1.1 INTRODUCTION OF RESEARCH PROBLEM TO THE STUDY

"Retailing includes all the activities involved in selling goods or services directly to final consumer for their personal, non business use".

Retail is all about selling, selling big and selling huge. It is all about ensuring that the customer first comes to store and then buys. This also means that one should connect to the customer and should be able to hold him in one place and give him all that he desires from one location. One of the key factors in achieving an organized and efficient retail operation is the use of technology as an enabler. Technology has been great enabler of business and especially retail enterprise. Information Technology is the key enabler to improving customer satisfaction, operational efficiencies and by extension, profitability. We are now wireless and seamless and cashless and everything less and can get any information we want and need. A typical pan national retail operation would have multiple regional warehouses, offices and retail outlets. In such an operation, how does the headquarters know daily turnover at each of its outlets, how does it know which products are selling the most in which region at which outlet, how does one store know if a stock out item in its own inventory is available at another store location for whom it is slow moving item? Most of these issues can be solved by the appropriate use of technology.

## 1.2 THE GLOBAL RETAIL INDUSTRY: AN OVERVIEW

Retail has played a major role world over in increasing productivity across a wide range of consumer goods and services .The impact can be best

seen in countries like U.S.A., U.K., Mexico, Thailand and more recently China. Economies of countries like Singapore, Malaysia, Hong Kong, Sri Lanka and Dubai are also heavily assisted by retail sector. Retail is the second-largest industry in United States both in number of establishments and number of employees. It is also one of the largest worldwide. The retail industry employs more than 22 million Americans and generates more than $3 trillion in retail sale annually. Retailing is a U.S. $7 trillion sector.

Wal-Mart is the world's largest retailer. Already the world's largest employer with over1million associates, Wal-Mart displaced oil giant Exxon Mobil as world's largest company when it posted $219 billion in sales for fiscal 2001. Wal-Mart has become most successful retail brand in the world due its ability to leverage size, market clout, and efficiency to create market dominance. Wal-Mart heads Fortune magazine list of top 500 companies in world. Forbes Annual List of Billionaires has the largest number (45/497) from the retail business.

## 1.3.    RETAIL SCENARIO IN INDIA: OVERVIEW

As corporate – the Piramals, Tatas, Rahejas, ITC, S.Kumar's, RPG Enterprises, and mega retailers- Crosswords, Shopper's Stop, and Pantaloons race to revolutionize the retailing sector, retail as an industry in India is coming alive.Retail sales in India amounted to about Rs.7400 billion in 2002, expanded at an average annual rate of 7% during 1999-2002. With upturn in economic growth during 2003, retail sales are also expected to expand at a higher pace of nearly 10%. Across the country, retail sales in real terms are predicted to rise more rapidly than consumer expenditure during 2003-08. The forecast growth in real retail sales during 2003 - 2008 is 8.3% per year, compared with 7.1% for consumer expenditure. Modernization of Indian retail sector will be reflected in rapid growth in sales of supermarkets, departmental stores and hyper marts. Sales from these

large-format stores are to expand at growth rates ranging from 24% to 49% per year during 2003-2008, according to a latest report by Euro monitor International, a leading provider of global consumer-market intelligence.

## 1.4    SCOPE OF THE INDIAN RETAIL MARKET

The scope of the Indian retail market is immense for this sector is poised for the highest growth in next 5 years. The India retail industry contributes 10% of the countries GDP and its current growth rate is 8.5%. In Indian retail market the scope for growth can be seen from the fact that it is expected to rise to US$ 608.9 billion in 2010 from US$ 394 billion in 2007. The organized retailing sector in India is only 3% and is expected to rise to 25- 30% by the year 2010. There are under construction at present around 325 departmental stores, 300 new malls, and 1500 supermarkets. This proves that there is a tremendous scope for growth in Indian retail market. The growth of scope in Indian retail market is mainly due to change in the consumer's behaviour. For new generation have preference towards luxury commodities which have been due to strong increase in income, changing lifestyle, and demographic patterns which are favourable. The scope of the Indian retail market has been seen by many retail giants and that is the reason that many new players are entering India retail industry. The major Indian retailers are:

- Pantaloons Retail India Ltd
- Shoppers Stop
- Bata India Ltd
- Music World Entertainment Ltd

Judging the scope for growth in India retail industry, many global retail giants are also entering Indian retail market. They are:

- Tesco
- Metro AG
- Wal- Mart

The scope of Indian retail market is very vast. And for it to reach its full potential the government and Indian retailers will have to make a determined effort.

## 1.5 GROWTH FACTORS IN INDIAN ORGANIZED RETAIL SECTOR

The growth factors in Indian organized sector are various but it is mainly because India's economy is booming. In addition, the rise in working population, which is young, pay- packets, which are hefty, more nuclear families in urban areas, rise in the number of women working, more disposable income and customer aspiration, western influences and growth in expenditure for luxury items. All these are the factors for the growth in Indian organized retail sector. Many Indian companies have entered retail industry in India and this is also a factor in the growth of Indian organized retail sector. Reliance Industries Limited is planning to invest US$ 6 billion in organized retail sector in India by opening 1500 supermarkets and 1000 hypermarkets. Bharti Telecoms is planning a joint venture worth £ 750 million with Tesco a global retail giant. Pantaloons are planning to invest US$ 1 billion in order to increase its retail space to 30 million square feet. Such huge investments are also a factor in growth of the organized retail sector in India. Global retail giants are also entering the retail industry in India and this is one of the factors in the growth of the organized retail sector in India. The factors for growth in Indian organized retail sector are many and that's the reason behind its massive growth. But for this to continue both Indian retailers and government will have to work together.

## 1.6    CHALLENGES FACING THE INDIAN ORGANIZED RETAIL SECTOR

The challenges facing Indian organized retail sector are various and these are stopping Indian retail industry from reaching its full potential. The behaviour patterns of Indian consumer have undergone a major change. These have happened for Indian consumer is earning more now, western influences, women working force is increasing, desire for luxury items and better quality. He now wants to eat, shop, and get entertained under same roof. All these have lead Indian organized retail sector to give more in order to satisfy Indian customer. The biggest challenge facing Indian organized retail sector is lack of retail space. With real estate prices escalating due to increase in demand from the Indian organized retail sector, it is posing a challenge to its growth. With Indian retailers having to shell out more for retail space it is effecting there overall profitability in retail.

Trained manpower shortage is a challenge facing the organized retail sector in India. The Indian retailers have difficultly in finding trained person and also have to pay more in order to retain them. This again brings down Indian retailers profit levels. The Indian government has allowed 51% foreign direct investment (FDI) in India retail sector to one-brand shops only. This has made entry of global retail giants to organized retail sector in India difficult. This is a challenge being faced by Indian organized retail sector. But global retail giants like Tesco, Wal-Mart, and Metro AG are entering organized retail sector in India indirectly through franchisee agreement and cash and carry wholesale trading. Many Indian companies are also entering Indian organized retail sector like Reliance Industries Limited, Pantaloons, and Bharti Telecom. But they are facing stiff competition from these global retail giants. As a result discounting is becoming an accepted practice. This too brings down profit of Indian

retailers. All these are posing as challenges facing Indian organized retail sector. The challenges facing Indian organized retail sector are there but it will have to be dealt with and only then this sector can prosper.

## 1.7    INFORMATION TECHNOLOGY INVOLVED RETAILING

Forecasting: Forecasting is the process of estimation in unknown situations. It's an essential and very important process in any business organization. Business leaders and economists are continually involved in process of trying to forecast, or predict, the future of business in the economy.

Retail Demand Forecasting: Modern demand-forecasting systems provide new opportunities to improve retail performance. Although the art of individual merchant may never be replaced, it can be augmented by an efficient, objective and scientific approach to forecasting demand.

Inventory Management: Inventory can be either raw materials, finished items already available for sale, or goods in process of being manufactured. Inventory is recorded as an asset on a company's balance sheet. To optimize deployment of inventory, retailers need to manage uncertainties, constraints, and complexities across their global supply chain on continuous basis.

Store Management: Another example where Information technology can be beneficial is a store management. That alerts out-of-place or stock-out items. A store, commonly a shop or stall for retail sale of commodities, but also a place where wholesale supplies are kept, exhibited, or sold. A place where something is deposited for safekeeping is called store. The in-store system use magnetic strips or barcodes or RFID to monitor actual versus intended product location on the floor or in stockroom.

## 1.8 APPLICATION OF INFORMATION TECHNOLOGY IN RETAILING

The retail market is a state of exponential growth. Retailing includes all activities involved in selling goods or services for the final consumer. These activities include demand and sales forecasting, inventory management, store management, transportation etc. Information technology is the capability to electronically input process, store, and output, transmit, and receive data and information. It plays a very important role in today's business world. New technologies evolved in retailing are Radio Frequency Identification (RFID), Smart Operating Solution Smart Ops, and Point of Sale (POS) etc. The result indicates that, retail complexities may reduce with the help of Information Technology solutions. The right solution can result in improved productivity and major cost saving through key advantages such as more accurate supply chain, forecasting and better inventory management. Information Technology also help retailers to solve major problems related to customer services like customer loyalty and customer satisfaction.

## 1.9 RETAIL'S COMPLEXITY: THE INFORMATION TECHNOLOGY SOLUTION

Much of the retail operations functionality is driven by customized point solutions in areas such as merchandizing, supply chain management, in-store operations, seasonality and promotions planning. This means the underlying IT systems to drive operations are equally complex. IT systems are at the heart of retail operations and hence play a central role in alleviating pressure points in retail sector. The converse also holds true retailers who do not manage their IT landscape effectively will find that, in time, the IT systems become part of the problem rather than components of solution.

## 1.10    RADIO FREQUENCY IDENTIFICATION

Radio Frequency Identification (RFID) is a system that facilitates the tracking of objects, primarily for inventory tracking, via a three part technology comprised of a reader, a transceiver with decoder and a transponder (RF tag). RFID is a wireless system that works in conjunction with an organization's information technology infrastructure to improve business processes such as inventory management and efficiency in supply chain management. The reader emits a radio signal that activates tag and reads and writes data to it. As products are shipped, received or stored, information (encoded on a bar code like tag) can be read and received by the reader, which is attached to a computer.

RFID has been integrated into EPC global network and uses the EPC (Electronic Product Code). The EPC is a unique number that identifies a specific item in supply chain. The EPC is stored on a RFID tag, which combines a silicon chip and a reader. Once EPC is retrieved from tag, it can be associated with dynamic data such as the origin of an item or date of its production. Much like a Global Trade Item Number (GTIN) or Vehicle Identification Number (VIN), EPC is the key that unlocks power of information systems that are part of  EPC global Network.

**USERS OF RFID**

Wal-Mart, world's second largest company, is deploying RFID technology in its stores. "Wal-Mart is positioning itself at the front of an inevitable technological revolution. Companies like Microsoft, IBM, and Philips Electronics, which recently made product enhancement announcements in this area, are also participants in industry. "IBM, in Armonk, New York, and Philips, in Amsterdam, will team on RFID for supply chain management, retail and asset management, as well as smart

card technology for finance, e-government, transportation and event ticketing."

**BENEFITS OF RFID FOR RETAILERS**

Imagine a shopping cart equipped with a scanner and a touch-screen computer that acts as a virtual personal shopper. As you scan items and put them in your cart, computer offers information about each product and suggests complementary items. The computer keeps a list of items in your cart with a running total so you know exactly how much you're spending. When finished shopping, you head to a self-checkout stand or to a cashier. Because your items are already totaled and bagged, wait time is minimal. All you have to do is pay. The power behind this hassle-free shopping experience is radio frequency identification (RFID) technology. RFID is helping retailers around the world improve customer satisfaction and increase sales. The technology is transforming the retail industry by offering retailers real-time visibility into inventory and product movement to improve store productivity and loss prevention. Many of the world's largest retailers have mandated RFID tagging. This move affects more than 200,000 manufacturers and suppliers, driving worldwide market for hardware and software to support RFID. Here are just a few ways where RFID is improving efficiencies and creating a better customer experience in retail industry. Inventory control is often a costly, time consuming process for retailers. By offering real-time inventory visibility, RFID enables inventory managers to monitor and control inventory supply at all times. By automating inventory tracking process, stores can keep costs down by maintaining optimum inventory levels avoiding stock-outs and eliminating unnecessary orders.

Tracking capabilities also make it easier to predict product demand. Store managers can monitor quick-selling items with increased accuracy,

ensuring that their inventory supply is stocked accordingly. Satisfied customers mean better business for retailers. By using RFID, your staff can identify the exact location of any retail item at any time. Your customer service team can handle customer requests quickly and easily through access to a centralized database. RFID tagged items offer store-to-store visibility, so items can be located immediately with the touch of a button. This level of product accessibility results in shorter wait times for customers and offers a better shopping experience. Improving overall store efficiencies ultimately results in greater savings to customers. RFID can be personal shopper of the future. By using RFID technology, retailers can collect information about their customers' purchasing trends and offer rewards targeted to those interests. RFID can enable your marketing and customer service teams to identify customers, call up account histories, and provide value-added services to help create a personalized shopping experience. For example, one clothing retailer in New York is using RFID smart labels to store information about each item in the store, such as fabric content, available sizes and colors, and suggested complementary items or accessories. RFID readers in the fitting rooms are connected to computer monitors so customers can view all the information and make decisions without ever having to leave the fitting room. And, because privacy is a primary concern, advanced security technology enables your IT staff to better protect all information. Participation is optional for each customer.

Legislation limiting or even preventing the deployment of RFID has begun to wend its way through both national and regional legislative bodies. Third, RFID signal and reader technology taking into account some of the more recent enhancements previously mentioned operates at a low semantic level. At the same time, volume of signals generated is large. To actually make use of much of the information contained within the signals, vendors will need to develop (and organizations will need to implement) a rich two

dimensional infrastructure. In order for the potential benefits of RFID to be realized by the economy, these challenges will need to be effectively addressed by industry.

**RFID CHALLENGES**

First, the market will require standardization and stabilization, with regard to both actual technology and functionality deployed within various RFID chips and the syntax and semantics of RFID tags themselves. At present, global organizations face the prospect of having to monitor, manage, and translate between two different signal grammars depending on how their intelligent objects are distributed among the regions of Europe and the rest of the world. Second, RFID technology's potential ability to enable automated gathering of information about post-sale product usage has already stirred up privacy anxieties. Legislation limiting or even preventing the deployment of RFID has begun to wend its way through both national and regional legislative bodies. Third, RFID signal and reader technology taking into account some of the more recent enhancements previously mentioned operates at a low semantic level. At the same time, volume of signals generated is large. To actually make use of much of information contained within the signals, vendors will need to develop (and organizations will need to implement) a rich two-dimensional infrastructure. In order for the potential benefits of RFID to be realized by economy, these challenges will need to be effectively addressed by industry.

**1.11  STATEMENT OF THE PROBLEM**

The complexity of retail operations and retail supply chain has forced the adoption of technologies. Large and global retail chains have already adopted technologies and are building competitiveness. Indian retail industry with its scope for growths is following global trend and has started adopting

technologies. RFID is a pervasive technology that has found a major application in retail business. However, extend of adoption of RFID in Indian retail operations are still limited. Therefore, following research question is framed for the study:

"What are the factors that influence adoption of RFID in Indian Retail business and will the adoption of RFID affect the customer satisfaction?"

## 1.12 OBJECTIVES OF THE STUDY

To answer the research question the following objectives are framed for study:

- ➢ To study the contribution of retail industry towards Indian economy.

- ➢ To study the application of technology innovation in retail industry.

- ➢ To study the factors influencing technology innovation in retail industry.

- ➢ To investigate awareness of the benefits of RFID among Indian retail businesses

- ➢ To identify problems and challenges faced by the retailers in adopting RFID.

- ➢ To analyze the customer satisfaction on use of RFID in retail Industry.

**1.13  SCOPE OF THE STUDY**

The scope of proposed study is confined to study the select marketing practices and strategies adopted by retail sector and factors influencing the marketing decisions in select decision-making areas of retailing. The study does not get into the details of marketing performance of retail sector. The proposed period of study is from 2005 to 2011 for the primary information and 1995 to 2009 for secondary information.

**1.14.  HYPOTHESES**

The proposed study attempts to test the following hypotheses:

➢ Perceived RFID benefits and Perceived RFID challenges will not influence the Attitude on Technology.

➢ Attitude on technology will not influence the usage of RFID.

➢ Opinion on retail sector does not vary with the characteristics of retails store.

➢ Importance of technology among the different store characteristics does not vary.

➢ There is no difference in use of RFID among the stores of different characteristics.

➢ Demography of retail customers will not influence satisfaction on use of RFID.

➢ The store features will not influence satisfaction on RFID.

**1.15.  METHODOLOGY**

Fundamentally, the study is designed as descriptive research. The phenomenon of study are not controlled or modified. They are just measured and reported to highlight the facts. As descriptive research mainly uses

interview or survey technique to collect the data, it is proposed to use a self administered questionnaire. Before research instrument is developed, a thorough review of literature and series of interview was conducted among the subject experts and possible respondents to find the items that need to be measured. Multi item constructs that measures phenomenon are framed. Proper scales such as five point agreeableness likert scales, importance scale and satisfaction scales are used.

**Sources of Data**

The sources of data include both primary and secondary. The primary source includes opinions of top management of the respondent retail stores and the opinion of customers visiting retail stores. The secondary source includes reports, standard text books, journals, magazines, web sites, news papers etc.

**Sample Design**

The population consists of retail outlets, which are operating in India. For convenience the sample framework was created limiting samples to the major cities in south India, Chennai, Bangalore and Coimbatore. Though Indian retail sector has majority of retail stores in unorganised sector, the application of technology was found relevant in the organised retailing. Therefore, sampling framework restricted to retails stores of various product categories of modern format. 150 stores were randomly selected for collecting data. However, only 134 stores responded the survey. The customer satisfaction was to be measured from visitors to the store. The responses were collected from customers visiting the store at the time and place where the researcher was collecting data from store personnel. Therefore, responses from the customers were collected by non-probabilistic purposive sampling. In total 480 responses were collected from customers.

## 1.16. LIMITATIONS OF THE STUDY

The study may not be free from limitations. The limitations of the study are:

- ➤ The study is confined to retail outlets chosen from Bangalore, Chennai and Coimbatore city only.

- ➤ Respondent stores may refuse to give statistical information.

- ➤ Respondent stores may decline to reveal strategic information.

- ➤ The use of self-administered questionnaire in data collection may lead to response bias.

- ➤ There may be some sampling error in areas where the sampling technique applied is non-probability sampling technique.

- ➤ Time and other resource constraints may be restrict the selection of more number of retail stores.

## 1.17 CHAPTERIZATION SCHEMES

This chapter introduces the research study and explained the problems faced by retail industry and technology adoption. A research problem was identified and objectives were set for directing the study. This chapter also proposed some hypotheses and explained the methodology of research.

Chapter 2 presents a review of literature on areas of retailing, use of technology, RFID and customer attitude and preferences in retail. The literature is classified into studies from Indian context and from other countries. This chapter presents the extant studies in the area taken for research.

Chapter 3 is a compilation of concepts taken for study. It presents the theories, concepts and terminologies related to research area. Concepts about

retailing, its elements, various technologies used are explained. This chapter also describes RFID technology and its application in retailing.

In Chapter 4, the results of data analysis are presented. This chapter presents the analysis of data collected from retailers. First, the characteristics of data are analyzed. The instruent is then validated and the reliability tested. Regression test and ANOVA is done to verify the hypotheses of study.

Chapter 5 presenst the data analysis of responses collected from the consumers visiting selected retail stores. The data are first described and validated. Correlation, chi square, regression and discriminant analysis are done as inferential test for verifying the hypotheses.

Chapter 6 is a summation of thesis. The findings from primary data are consolidated and the summaries of results of the hypotheses test are presented. This provides the suggestions to various stakeholders. The research instrument is furnished in appendices.