# Information Technology – Key Success Factor in Retail

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## Abstarct

Today's retailers faces some of the toughest issues ever experienced in the history of the industry from a fundamental change in the way consumers shop to greatly increased expectations for service and price. Retail is all about selling, selling big and selling huge. It's all about ensuring that the customer first of all comes to the 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. In this context the information technology plays a vital role in how well the customers are satisfied. This paper will explore how information technologies useful to achieve revolutionary excellence in marketing, customer service, and associate effectiveness and supply chain efficiency. In the following pages, we will take a look at how retailers can transform operations through the creative deployment of today's information technologies to increase sales, improve customer retention rates and reduce costs for a significant competitive advantage.

## Introduction

The retail industry business has been around for centuries. It all started with a community general shop where people of the community would shop for items of necessity. Single general stores by local residents were the most common because specialty stores were not really necessary due to limited population within the city and disconnectivity of people. As societies advanced with population increase leading to expanded cities, and new advanced technologies gave rise to interconnectivity as well easy communication between distanced cities or societies, opportunity for specialty stores was formed. But before the specialty stores formed into a business, the function of the general store was most essential because they provided the varied

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

Today's retail business is highly dependent on information and if barriers are not met, a thriving business will soon be doomed (Mansoory and Mehra, 2010). Now information is considered a highly valued asset to an organization and if businesses do not address these information barriers soon, they will face the compound in accelerated growth in information which will drive organizations out of business.

One of the key factors in achieving an organized and efficient retail operation is the use of information technology as an enabler. Information Technology is the key enabler to improving customer satisfaction, operational efficiencies and by extension, profitability. Technology has been the great enabler of business and especially retail enterprise. We are now wireless and seamless and cashless and everything less and can get any information we want and need.

In the highly competitive retail industry, any information about your customer spending pattern, habits, and preferences is an asset and competitive advantage to you over your competitor. Unfortunately, if you do not invest in acquiring relevant information that is a business necessity to survival of the company as competitive advantage, then the company will lose business with poor customer relationships. Today's customers are highly informative and price sensitive, so if they are not satisfied there are many more options available to them. As a result they will substitute to another vendor.

A typical national retail operation would have multiple regional warehouses, offices and retail outlets. In such an operation, how does the headquarters know the 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. Retailers need to transform their IT capabilities for a number of reasons. These include:

* To aggregate and analyze customer data to enhance differentiation.
* To increase a company's ability to respond to a rapidly changing marketplace through enhanced flexibility and speed.

\* To operate effectively, retailers need to have one system working across stores (sometimes across national borders) to ensure the most effective use of stock and to support optimized business processes.

## Information Technology

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 (Syntel, nd). This means the underlying IT systems to drive operations are equally complex.

Information System is a combination of people, hardware, software, communication devices, networks and data resources that processes (can be storing, retrieving, transforming information) data and information for a specific purpose. Information system refers to the totality requirements for handling information in an organization.

Information technology, as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." Encompassing the computer and information systems industries, information technology is the capability to electronically input, process, store, output, transmit, and receive data and information, including text, graphics, sound, and video, as well as the ability to control machines of all kinds electronically.

## Need of Information Technology In Retailing

The critical information needs of the retail organization form the basis for critical success factors in the retail business. The following are some of the key information areas;

• Product information – catalog, availability, new releases, promotion, supply and demand etc.

• Customer information – profile, behavior, activities, preferences, distribution etc.

• Operations information – logistics, allocation, procurement, schedule, inventory, shelf space

A number of factors are responsible for the need of information technology in retail out of which four factors are more important than ever before. They are:

1.  **Intense Competition:** Intense competition forces the organization to become more efficient and effective. As the industry matures lack of growth and excess capacity will often result in a share battle between the large companies. For example we are witnessing a market share battle in steel, automobile, chemical and food industry. One way to gain the competitive advantage is to use information technology at least in four ways.

    *   It reduces the operating costs through automation.

    *   It improves the product or service quality by providing quality assurance

    *   Information technologies provide a value added services which creates a differentiation.

    *   Information technology can be used for competitive intelligence.

2.  **Globalization of business operations:** In all the businesses whether it is consumer or industrial, high tech or low tech, service or product there is at least some degree of global competion.Global operations requires that both the time and distance barrier is to be eliminated or reduced. As the industry become more global in its procurement, manufacturing and marketing operations it requires a greater use of information technology to reduce the time and space barriers.

3.  **Organizational changes:** With the organizational reorganization and increased mergers and acquisitions top management recognizes the need for flexibility through compatible information technology. Some of the aspects that creates the need for information technology are:

    *   Cost efficiency through consolidation and automation.

    *   Significant number of mergers and acquisitions.

    *   Crises management and security of physical human resources has become a major issue in recent years

    *   As the major industries mature and competition intensifies they are reorganizing to become market driven.

4.  **Technology revolution:** In a very short period of time we have seen the commercialization of information technologies**.** The performance and price ratio of new generation information technology is making them more affordable and useful to the organization (Sheth, 1994). There are three fundamental dimensions of information technology;

    *   Sharp experiences in information technologies resulting in an increased value in use.

- Information technologies have been distributed over time with respect to processing, memory and intelligence.
- Information technologies are highly integrated with the advent of end to end digital technologies, it is possible to transmit, store, process and distribute different forms of information on a single integrated technology.

**How Information Technology Involved In Retailing Operations**

Information technologies can be used by the organization in variety of innovative ways. They have become tools to meet corporate objectives of effectiveness and efficiency. They can be used as shown in the following figure.

| | Internal focus | External Focus |
|---|---|---|
| Strategic Positioning | Strategic Planning (Portfolio management) | Partnership Planning ( Alliance Management) |
| Operational Efficiency | Factory and Office Automation (Cost Control) | Suppliers and Customers (Account Control) |

Some of the areas are:

\* **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 the process of trying to forecast, or predict, the future of business in the economy. Business leaders engage in this process because much of what happens in businesses today depends on what is going to happen in the future.

Modern demand-forecasting systems provide new opportunities to improve retail performance. Although the art of the individual merchant may never be replaced, it can be augmented by an efficient, objective and scientific approach to forecasting demand. Large-scale systems are now capable of handling the mass of retail transaction data – organizing it, mining it and projecting it into future customer behavior (Hussain, 2010). This new approach to demand

forecasting in retail will contribute to the accuracy of future plans, the satisfaction of future customers and the overall efficiency and profitability of retail operations.

**\* Inventory Management:** Inventory can be either raw materials, finished items already available for sale, or goods in the process of being manufactured. Inventory is recorded as an asset on a company's balance sheet.

To optimize the deployment of inventory, retailers need to manage the uncertainties, constraints, and complexities across their global supply chain on continuous basis. This allows them to improve their inventory forecasting ability and accurately set inventory targets. An IT solution is a proven and market leading solution for determining optimal time-varying inventory targets for every item, at every location throughout supply chain. This allows retailers you to significantly reduce inventory without adversely affecting service levels.

**\* Store Management:** Another example where Information technology can be beneficial is a store management system that alerts out-of-place or stock-out items. A store is commonly a shop or stall for the 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.

An in-store system uses magnetic strips or barcodes or RFID to monitor actual versus intended product location on the floor or in the stockroom (Negi, 2008).

**Information System Applications in Retail Industry**

IS provides solutions to the retail store in two different forms. They are:

**1. Retail Store Front**: The Retail Store front is undergoing a world of change, with product specialization losing out to multiservice capability (ISTS, nd). The retail POS is becoming more than the cash till and is a powerful medium to deliver non-traditional services, offer real time consumer incentives and capture valuable consumer shopping profiles for more targeted marketing. Some of the store front technology initiatives:

• POS and Peripheral Applications

• Payment Applications

• Store Management Solutions

Retail verticals like Grocery, Pharmacy and Convenience (Petrochemical and Corner) Stores are consumer destinations for more than just the traditional essentials. Consumers are increasingly

expecting one-stop-shopping solutions at these locations, including Telecom Top-Up services, Bill Payment, Gift Card POSA etc. The ability to offer these solutions in a secure, cost-effective and scalable model can often times proves to be the single largest contributor to retail brand differentiation and consumer loyalty.

**2. Retail Store Back**: The Retail Back Store, a traditional cost center rift with manual operational processes, is undergoing phenomenal change in terms of emerging as a central hub for managing operational excellence throughout the store. Creative adoption of technology is spearheading this change. Innovative examples of this change are:

• Store Inventory & Warehouse Management

• Time & Attendance Tracker

• Real Time Stock Locator

• Auto Replenishment & Store Orders

•Store Operations Reporting

•Retail Shrink and Loss Prevention

•Personnel Management solutions

•Time and Attendance, Computer- Based Training

•Store Inventory Management

•Stock locator, Direct Store Delivery, Auto Replenishment

•Store Warehouse Management

•Store Receiving, Real Time Inventory Adjustment, RFID based Inventory Management

**New Technologies Evolved In Retailing**

**1. Radio Frequency Identification (RFID)**

Radio Frequency Identification in the retail industry has solved major problems related to customer services. With the help of RFID it becomes easy for the sales staff to locate a particular item in the store and check its availability in less time (Doshi, 2006). It's a data collection technology that uses electronic tags for storing data. The tag, also known as an "electronic label," "transponder" or "code plate," is made up of an RFID chip attached to an antenna. Transmitting in the kilohertz, megahertz and gigahertz ranges, tags may be battery-powered or derive their power from the RF waves coming from the reader.

Like bar codes, RFID tags identify items. However, unlike bar codes, which must be in close proximity and line of sight to the scanner for reading, RFID tags do not require line of sight and can be embedded within packages. Depending on the type of tag and application, they can be read at a varying range of distances. In addition, RFID-tagged cartons rolling on a conveyer belt can be read many times faster than bar-coded boxes.

RFID in retail helps in the following ways:

• Improves the level of customer service

•Increases customers loyalty

•Better Inventory Management

•Item level tracking.

The future of RFID is very bright in retail sector, as right from inventory management to product manufacturing, this system provides a more efficient and advanced retail experience to both the customer and the seller.

## 2. Smart Operating System

Supply chains can look very different from industry to industry. But companies across industries share a common challenge -- finding ways to better manage growing uncertainty and complexity to improve supply chain performance.

To improve their supply chains, companies across industries have made sizable investments in a range of technology solutions, yet significant profitability improvements have remained elusive. Largely unaddressed has been the opportunity to use enterprise and supply chain data to support key inventory planning decisions that fuel execution systems and activities -- something beyond a mere spreadsheet or desktop solution (Saraf, Tiwari and Malviya, 2007).

Smart Ops customers are proactively managing supply chain uncertainty across all stages to improve their total chain inventory planning, so that their customer service levels can be stabilized and even increased while overall costs to the business are minimized. Smart Ops enterprise software solutions support many initiatives and challenges associated with different manufacturing and distribution industries from Lean Manufacturing, Just-In-Time (JIT), and Six Sigma initiatives, to postponement strategies, to Collaborative Planning, Forecasting, and Replenishment (CPFR), and Sales & Operations Planning (S&OP) activities.

Smart Ops inventory optimization algorithms manage uncertainties in the data and offer visibility into the drivers of inventory at the item-location-time period level of detail. Smart Ops is able to do that because it looks at the right granularity of data to adequately manage safety stock levels and understand where the biggest ongoing opportunities for improvement are within their supply chains.

### 3. Point of Sale

Capturing data at the time and place of sale is now done with the help of Point of sale systems. Point of sale systems use computers or specialized terminals that are combined with cash registers, bar code readers, optical scanners and magnetic stripe readers for accurately and instantly capturing the transaction.

Point of sale systems may be online to a central computer for credit checking and inventory updating, or they may be stand-alone machines that store the daily transactions until they can be delivered or transmitted to the main computer for processing.

Point of sale (POS) systems is electronic systems that provide businesses with the capability to retain and analyze a wide variety of inventory and transaction data on a continuous basis. POS systems have been touted as valuable tools for a wide variety of business purposes, including refining target marketing strategies; tracking supplier purchases; determining customer purchasing patterns; analyzing sales (on a daily, monthly, or annual basis) of each inventory item, department, or supplier; and creating reports for use in making purchases, reorders, etc.

Basic point of sale systems currently in use includes standalone electronic cash registers, also known as ECRs; ECR-based network systems; and controller-based systems. All function essentially as sales and cash management tools, but each has features that are unique.

### CONCLUSION:

In the present scenario the above information systems can increase the business performance of the organizations and the success lies in how well the organization manage their information system and how well it contributes to the customer satisfaction. It is so vital for the retail as the customer involvement in the service delivery process is high. IT systems are at the heart of retail operations and hence play a central role in alleviating pressure points in the 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 the solution.

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