
UNIT 12 TECHNOLOGY AND CUSTOMER VALUE

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12.0 OBJECTIVES

After studying this unit, you will be able to:

- Explain the advent of technology in retail;
- Discuss the importance of technology and its role in retailing;
- Describe the technologies available for retail businesses;
- Discuss how to make use of the available technology;
- Describe how technology helps in creating customer value; and
- Describe how technology helps create communication value.

12.1 INTRODUCTION

In India, the purchasing power of the middle class is rising. Their consumption pattern is changing, and the urban population is increasing, giving way to the rural population and coming forward. The middle-class population is fascinated towards the Western lifestyle, and they are following

it. This provides a conducive condition for the organised retail sector in India to grow rapidly. Large organised retail chains like Shopper Stop, Lifestyle, Westside Tata CROMA, Reliance, etc, are tempting customers to a considerable extent. People now prefer to go for the retail style of shopping. In India, retail has become the most significant industry after agriculture.

The organised retail sector needs to automate their process and data so that they can manage the rising customers effectively and keep their costs lower to maintain their profitability. Information technology plays a vital role in bringing all this. Besides, Information technology can give the organised retail sector an edge over the umpteen Kirana stores (General Merchants).

Rapidly changing production and supply chain dynamics drive the Indian retail industry to automate its processes and data. It is a constant challenge for retailers to automate their customer's customer experience, attract new customers, and retain old shoppers. At the same time, narrowing margins means that retailers must cut costs to stay profitable. The various technologies outlined in this unit help retailers meet these goals of automating processes and cutting costs.

In this unit, we will discuss these technologies and try to understand how they benefit the customers as well as retailers.

12.2 CUSTOMER RELATED TECHNOLOGY IN RETAIL

Technology is the backbone of modern-day retailing. It was very easy to manage traditional retailing because of its small size, nature of business, narrow scope and less competition. organisations complicated a However, the modern retailing format, which consists of large stores, malls, superstores, and large retail chains owned by large organisations, is complicated to manage without efficient and reliable technology in place. The customer is now 'king' in a real sense and wants value out of his entire shopping experience. In these busy and well-aware days, the customer is not merely satisfied with just the low prices and quality of products/ services but also want complete ease, convenience and comfort during their buying process.

Technology proves highly beneficial in generating and maintaining customer value. An in-depth analysis of customer data collected at the retail point of sale helps retailers understand preferences, buying habits, spending budgets and needs of an individual customer. Customer value is generated and maintained by utilising technology for e-mails, SMS, greetings, letters, and telephone calls.

embraced technology Modern retail stores have now embraced technology in order to serve customers better. The various technologies used by retailers include the following:

- Point of sale terminals & Point –of-sale software

- Bar code systems
- RFID Systems
- Electronic Data Interchange
- Internet Retailing or e-commerce
- Digital Signage
- Kiosks
- Customer Relationship Management Software
- Inventory Management Software

12.3 USING TECHNOLOGY TO CREATE CUSTOMER VALUE

Retail management involves running a store where merchandise is sold. Retail management includes using hardware, software and procedures to manage activities such as planning, inventory control, financial management, logistics and point of sale transactions.

We will discuss some technologies used by the retailer to manage his operations, which ultimately create customer value.

12.3.1 Technology in Supply Chain Management

The supply chain is the delivery of economic value to customers by managing the flow of physical goods and associated information from vendors to customers. Those activities that manage the movement of products to retail distribution centres and stores and the exchange of information between retailers and vendors can be supported by technology.

12.3.2 Information Flows in Supply Chain Management

There is a constant flow of information between the checkout counters, stores, warehouses and vendors. A warehouse or distribution centre is not a retail outlet but a centre which receives goods from vendors and further redistributes them to the stores.

A typical example of information flow is as follows:

The cashier scans a UPC (Universal Product Code) on a product, and a sales receipt is generated; The UPC tag is a black and white bar code containing a 12-digit code that indicates the manufacturer of the item and the description of the item.

This information is captured at the point-of-sale terminal and sent to the computer system. This sales transaction data is sent to the distribution centre. When the store inventory drops below a certain level, more products of that category are sent to the store. The system tracks the stock inventory level at any point in time at the store and the distribution centre.

When the product's inventory level falls to a specified level in the distribution centre an order is placed with the manufacturer. Such flows of information are conducted through the electronic data interchange.

12.3.3 Electronic Data Interchange [EDI]

Most communications between vendors and retailers occur through electronic data interchange. EDI is the computer-to-computer exchange of business documents in a structured format, which means that the data transmissions use a standard format to communicate the data. For example, specific symbols are used to delineate:

- The purchase order number,
- The vendor's name,
- The address where the merchandise is being shipped to.

12.3.4 Transmission Systems

Intranet: In large retail firms, the intranet is used for communication among internal employees. Information flow between store managers, planners and distribution store employees is essential in retail management. This intranet is a local area network that uses the internet to facilitate communication and internal access to information.

Extranet: To communicate externally with the vendors, large retailers like Wal-Mart initially developed their proprietary transmission systems, but now EDI transmissions occur over the internet through extranets.

An extranet is a collaborative network that uses Internet technology to link businesses with their suppliers, customers or other companies. Extranets are private and secure and accessed only by authorized parties.

An extranet is an extension of a company's intranet, modified to allow access to specified external users. The shift from proprietary transmission network to internet based networks enables small vendors and retailers to take advantage of EDI economically. Wal-Mart's extranet is called Retail Link.

Through the extranet, the retailers make available the following:

- Procedures
- General supplier information- shipping information, packing details, etc.

On the intranet and extranet, various software and hardware systems are installed to manage all the operations of the store effectively.

Check Your Progress A

- 1 Write any two benefits of technologies in retail businesses.

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- 2 List the technologies used by retailers.

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- 3 What is the use of EDI in retail?

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12.4 TECHNOLOGY IN CREATING CUSTOMER DELIVERY VALUE

Customer delivery value in terms of speedy delivery of items purchased is enabled by technology. At checkout counters, Point-Of-Sale terminals are used, which combine both hardware and software elements. Bar Codes or RFID tags are combined with the POS terminals to ensure quick identification and invoicing of items purchased with minimal human intervention. Retailers now use various technologies to deliver value to their customers, and these technologies are given below in detail.

12.4.1 Point of Sale (POS)

Point of sale (POS) (also sometimes referred to as Point of purchase (POP) or checkout, is the location where a transaction occurs. A “checkout” refers to a POS terminal or, more generally, to the hardware and software used for checkouts, the equivalent of an electronic cash register. POS is the combination of point-of-sale hardware and software.

A. Point of Sale Hardware

The most important component of modern retail information technology is the hardware. It involves tangible things like machines, conveyor belts, pole displays, scanner and weighing scales etc. These devices reduce the time spent in serving the customer. A POS terminal manages the selling process by a salesperson-accessible interface. The same system allows the creation and printing of the receipt. It generally serves two significant purposes:

- i) Efficiency in service delivery
- ii) Collection of primary sales and customer data

The retail industry is one of the predominant users of POS terminals. A retail point-of-sales system typically includes

- Computer
- Monitor
- Cash drawer
- Receipt printer
- Customer display
- Barcode scanner
- Vending machines
- Electronic cash register
- Electronic point of sale

A retail POS may also include

- A debit/credit card reader
- A weight scale,
- An integrated credit card processing system,
- A signature capture device.



Figure 12.1: Point of sale hardware

More and more POS monitors use touch-screen technology for ease of use, and a computer is built into the monitor chassis for what is referred to as an all-in-one unit. All-in-one POS units save valuable counter space for the retailer.

POS systems are manufactured and serviced by firms such as Fujitsu, IBM, MICROS Systems, Panasonic, Radiant Systems, Sharp, Squirrel Systems, and Vectron POS, among others.

B. Point of Sale Software

Point-of-sale software performs the essential functions of billing at the checkout counter and, at the same time it collects sales and customer data. The POS system software can typically handle many customer-based functions such as sales, returns, exchanges, layaways, gift cards, gift registries, customer loyalty programs, BOGO (buy one get one), quantity discounts and much more. POS software can also allow for pre-planned promotional sales, manufacturer coupon validation, foreign currency handling and multiple payment types.

The POS unit handles the sales to the customer, but it is only one part of the entire POS system used in a retail business. “Back-office” computers typically take other POS system such as inventory control, purchasing, receiving and transferring of products to and from different locations. Other typical parts of a POS system are to store sales information for reporting purposes, sales trends and cost/price/profit analysis. Customer information may be held for receivables management, marketing purposes and specific buying analysis. Many retail POS systems include an accounting interface that “feeds” sales and cost of goods information to independent accounting applications.

Point-of-sale software can be classified into the following three types:

- i) **Best-of-Breed Software:** It is a software system that runs independently at the retail outlet and performs the basic functions of sale, purchase, stocks, reporting, etc.
- ii) **Legacy Software:** The in-house developed solutions or development by third-party consultants for the specific needs of the organisations is called legacy systems. This system is usually found with organisations that started automation in the early days of computerisation.
- iii) **ERP-integrated Software:** Enterprise resource planning is a companywide computer software system used to collect and coordinate a business's resources, information and functions from shared data stores. It relates to the integrated software infrastructure that supports the entire company's business process. Many vendors are supplying their ERP software packages such as SAP, ORACLE, PEOPLESOFT, SSA, Microsoft Dynamics etc.

When an organisation uses readily available software for back-office management, which evaluates a product that talks to the back-office system is ERP-integrated POS software.

Typical features of a POS software system

- 1 **Printing of Sales Invoices and Receipts:** The system speedily generates an invoice for each client at the checkout.

- 2 **Calculates Discounts:** The system calculates any sales discounts the customer is eligible for under any scheme.
- 3 **Taxes:** The local taxes commonly be added to the invoice amount.
- 4 **Frequent Shoppers Reward/Points System:** Normally, loyal customers are given reward points on each purchase, which accumulate and make the customer eligible for a reward. The system keeps track of such point systems.
- 5 **Sales Returns:** Sales returns are also handled by the POS system. If any item is returned by a customer which has already been billed, it is entered as a sales return, and the transaction is reversed.
- 6 **Supports on Account Sales:** If sales are made on account whereby the payment is made after a fixed period, say a month, such transactions can be entered into the system.
- 7 **'On Sale' Items:** If a customer has purchased items covered under any special sales offer, the scheme can be fed into the software to automatically adjust the invoice for the specific transaction.
- 8 **Gift Vouchers:** The system acknowledges gift Vouchers issued by retailers.
- 9 **Coupon Redemption Discounting:** Customarily, coupons are issued by manufacturers of consumer-packaged goods or by retailers to be used in retail stores for sales promotions. They are often widely distributed through mail, magazines, newspapers, and the Internet. The POS system acknowledges these coupons and issues necessary discounts.
- 10 **Payment Processing:** The POS software allows typically payments by different methods such as cash, debit, and credit cards.
- 11 **Supports Touch Screen, Keyboard, Bar Code Scanner Support or Mouse:** The checkout clerk can use various modes to create the invoice. This saves valuable time in creating the invoice.
- 12 **Weight Scale Support:** The system is sometimes linked to a weighing scale to facilitate the weighing and invoicing of the item.
- 13 **Multi-Currency Transactions:** Different currencies, such as the dollar and pound, may be accommodated within the same POS terminals.
- 14 **Price and Inventory Lookup:** Each item's price and inventory status is stored in the system and can be referred to by the check-out clerk instantly.
- 15 **Cross-Selling:** Access customer histories and target customer preferences to offer up-sells and cross-sells. Cross-selling is a sales technique of selling additional products or services to existing customers. Up-selling is a sales technique in which the seller encourages the

customers to purchase more expensive items. It means selling the product or service which is more profitable to the business.

Customer Benefits from POS Software:

Checkout times are reduced due to the various features that accommodate all customer needs. The system handles kinds customer issues, such as discounts, taxes and sales returns. If this invoicing were done manually, it would be far more time-consuming. If there is a sale, the special invoicing is done automatically. If a customer walks in with a gift voucher, there is no long bureaucratic process since the system acknowledges the gift voucher. There are no delays if a customer wishes to use a credit card or pay in a foreign currency. If a customer wishes to redeem his reward points, the system automatically does the adjustment. The touch screen allows the invoice to be prepared speedily.

12.4.2 Bar Coding System

Almost everything that you buy from retailers has a UPC bar code printed on it. These bar codes help manufacturers and retailers keep track of inventory. They also give valuable information about the quantity of products being bought and, to some extent, the customers buying them. These codes are product fingerprints made of machine-readable parallel bars that store binary code.

If you look in your refrigerator or store room right now, you will find that almost every package you see has a UPC bar code printed. Nearly every item that you purchase from a grocery store, department store or mass merchandiser has a UPC bar code on it somewhere.

”UPC” stands for Universal Product Code. UPC bar codes were created to help grocery stores speed up the checkout process and keep better track of inventory. Still, the system quickly spread to all other retail products because it was so successful.



You can see the manufacturer identification number in any standard 12-digit UPC code. The UPC symbol has two parts:

- The machine-readable barcodes
- The human-readable 12-digit UPC number

The manufacturer identification number is the first six digits of the UPC number — 639382 in the image above. The following five digits — 00039 —

are the item number. A person employed by the manufacturer, the UPC coordinator, is responsible for assigning item numbers to products, ensuring the same code is not used on more than one product, retiring codes as products are removed from the product line, etc.

In general, every item the manufacturer sells, as well as every size package and repackaging item, needs a different item code.

The last digit of the UPC is called a check digit. This digit lets the scanner determine if it scanned the number correctly or not. Each time the scanner scans an item, it performs a calculation. If the check digit it calculates differs from the check digit it reads, the scanner knows that something went wrong and the item needs rescanned.

Advantages of Bar Code System:

- a. With a barcode data collection solution, capturing data is faster and more accurate.
- b. Costs are lower, and errors are minimised.
- c. Managing inventory is much easier than using a manual system.

Disadvantages of the Bar Code System:

Created in the early 1970s to speed up the check-out process, bar codes have a few disadvantages:

- a. To keep up with inventories, companies must scan each bar code on every box of a particular product.
- b. Going through the checkout line involves the same process of scanning each bar code on each item.
- c. Bar code is a read-only technology that cannot send out any information.

12.4.3 Radio Frequency Identification (RFID)

RFID tags are an improvement over bar codes because the tags have read and write capabilities. Data stored on RFID tags can be changed, updated and locked. Some stores that have begun using RFID tags have found that the technology offers a better way to track merchandise for stocking and marketing purposes.

RFID technology's appeal lies in its ability to allow retailers to know the exact location and quantity of inventory without conducting time consuming counts.

Most retailers cannot identify the number of units of a given stock-keeping team available at a particular store due to inaccurate inventory records. A study of one large retailer found that 65 per cent of a store's stock-keeping unit had erroneous inventory counts.

What is RFID?

RFID Stands for Radio Frequency Identification.

In brief, Radio Frequency Identification (RFID) uses a semiconductor (microchip) in a tag or label to store data. Data is transmitted from or written to the tag or label when it is exposed to radio waves of the correct frequency and with the proper communications protocols from an RFID reader.

Essentially, RFID is a technology which allows an object to be identified at a distance using radio waves. Because the tag sends an electronic signal, it can transmit information when buried under several layers of products and shipping material, through concrete walls or even underwater. With this degree of visibility, it is possible to electronically read an entire pallet or truckload of material in seconds by passing the products through an RFID reader.

Tags also can withstand dirt or moisture better than printed barcodes. Reading and writing distances range up to 100 feet, and tags can be read at high speeds. RFID tags can hold more data as compared to bar codes.

RFID allows retailers to know the exact location of any item. There is accurate real-time monitoring of any single item in stores or at checkout. In bar coding, manual pointing is required for reading a code, while in RFID, the process is done automatically without human intervention by correctly implementing readers at specific locations.

A core capability of RFID, which barcodes do not offer, is the ability to link the date received of an item to the date sold. By implementing RFID readers at the receiving docks and the point-of-sale, retailers can know when specific items arrived at the store and when they are sold. For perishable products such as food, this reduces losses due to spoilage.

By positioning RFID scanners within the store, retailers can better understand which products are selling from which locations. Radio Frequency Identification (RFID) technology is poised to experience widespread adoption in the world's supply chain over the next decade. The technology presents a compelling value proposition to retailers because it delivers substantial benefits over the bar code system for tracking and identifying inventory.

RFID Versus Bar Code Technology

BAR CODE	RFID
Requires line of sight to be read	Can be read or updated without a line of sight
Bar Codes can only be read individually	Multiple RFID tags can be read simultaneously
Bar Codes cannot be read if they become dirty or damaged	RFID tags can cope with harsh and dirty environments

Bar Codes must be visible to be logged.	RFID tags are ultra-thin, and they can be read even when concealed within an item
Bar Codes can only identify the type of item	RFID tags can locate a specific item
Bar Code information cannot be updated.	Electronic information can be overwritten repeatedly on RFID tags.
Bar Codes must be manually tracked for item identification, making human error an issue.	RFID tags can be automatically tracked, eliminating human error

Benefits of RFID Technology to the Retailers

Retailers can enjoy the following benefits from RFID technology:

1. **Reduced Warehouse and Checkout Labour Costs:** Labour costs of tracking inventory in the warehouses, on the shelves and at checkout can be reduced significantly.
2. **Inventory Savings:** RFID reduces inventory errors, and by monitoring pieces accurately, Retailers have better information about what was sold and what is needed.
3. **Reduced Theft:** The precise location of any product is identified due to automatic tracking.

This helps reduce theft in transportation, at the warehouse and store.

4. **Reduced Out-of-Stock Conditions:** Forecasts are more accurate due to its automatic and immediate product tracking, which reduces stock outs. Any shortage is immediately communicated to the store managers for replenishment.

Impediments to the Adoption of RFID Technology

RFID is an expensive proposition due to the high cost of the tags. This has caused a delay in its adoption by retailers.

Benefits of BAR Coding and RFID Technologies to the Customer

1. Reduced stock-out conditions as the retailer has automatic product tracking.
2. The customer benefits from any cost saving to the retailer as this, in turn, benefits him by way of getting products available at reduced cost.

12.5 TECHNOLOGY IN CREATING COMMUNICATION VALUE

Retailers create value for the customer by communicating relevant information on merchandise availability, pricing, special offers, etc.

Technology enables superior communication through digital signage, kiosks and the Internet. Retailers also use CRM software tools to better understand their customers and communicate relevant messages to targeted customer segments.

12.5.1 Digital Signage

Many retailers are beginning to replace traditional signage with digital signage. Digital signage is one where the visual content is delivered digitally through a centrally managed and controlled network and displayed on a television monitor or flat-panel screen. The content can range from entertaining video clips to simple displays of the prices of the merchandise.

Typical Messages on digital signage

- a) Pricing of merchandise
- b) Promotions running currently
- c) Sales of specific brands
- d) Merchandise availability
- e) Advertisements
- f) Directions to reach specific locations

Benefits of Digital Displays

There are several benefits of using digital displays in advertising and marketing.

1. **Flexibility:** Digital displays allow for easy updating and changing of content, making it simple to adapt messaging and promotions to different audiences, seasons or events.
2. **High Impact:** With bright, high-resolution displays, digital signs can grab attention and make a strong visual impact.
3. **Targeted Messaging:** Digital displays allow targeting specific demographics and audiences with tailored messaging.
4. **Cost-Effective:** Digital displays are more cost-effective than traditional static signs in the long run, as they do not require printing or installation costs and can be updated remotely.
5. **Data and Analytics:** Digital displays can be integrated with sensors and analytics to measure audience engagement and track performance, which can be used to optimise future campaigns.
6. **Interactivity:** Digital displays can be made interactive, engaging the audience and creating a memorable experience.
7. **24/7 Availability:** Digital displays can be programmed to run 24/7, increasing visibility and reach for a brand.

Overall, digital displays offer a versatile and cost-effective way to reach audiences, create engaging and interactive experiences, and deliver targeted messaging.

Top of Form

Regenerate response

Bottom of Form

Drawback of Digital Displays

The major drawback of digital displays is that it involves high initial capital costs.

12.5.2 Kiosk

A kiosk is a small physical structure with a computer and a display screen that displays information for people walking by. Kiosks are standard near the entrances of shopping malls in North America, where they provide shoppers with directions. Kiosks are also used at trade shows and professional conferences. The word kiosk is of Turkish and earlier Persian origin, meaning an outdoor pavilion or a portico. The kiosks best known to travellers are those that display show and movie posters on the streets of Paris.

More sophisticated kiosks let users interact, including touch screens, sound, and motion video. Several companies specialize in creating multimedia kiosks. A simple booth can be made using HTML pages and graphics, setting the type size large enough to attract people from a short distance, and removing the Web browser's tool bar so that the display screen is effectively is "kiosk mode".

Due to the high visibility of these units, which are most often located in the common areas of malls, these businesses can often gain a relatively trackable monthly sales figure after a three- or four-month trial. Retailers install kiosks with broadband internet access in their stores.

Customers Can Use Kiosks to:

- a) Locate merchandise
- b) Determine if specific products, brands and sizes are available
- c) Can find out how a product is to be used
- d) Can have comparisons of two separate brands as reported in reputed journals, e.g.; Home theatre systems comparison
- e) Customer might wish to access his buying history
- f) Pre-ordering services for items such as bakery



Figure 12.2: Kiosk

Check Your Progress B

1. What is a POS terminal?

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2. What is the use of the bar-coding system?

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3. State the information provided by digital signage.

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12.5.3 Internet Retailing

A new trend that has caught up significantly with the expansion of the internet is internet retailing, whereby customers can purchase products without having to visit a store physically. In the context of internet retailing, either there exist retailers with both a physical store and a virtual store e.g.; Shoppers Stop in India operating in both formats or internet retailers with an exclusive virtual presence like the Amazon.

Advantages of Purchasing Online

Superior Information: Retailers typically provide for more information on the internet than is available through store or catalogue channels. This information can be greater than what is provided in a catalogue. This is regularly updated and is available 24x7x365 a year. The sales associate in a store is not always knowledgeable about all relevant details of the desired item. The comprehensive information available on the internet can be sufficient to make a purchase decision.

Broader Selection: Customers can check out merchandise from a large number of retailers to arrive at a decision. The prices and product information of different brands can be pursued. The customer can get more alternatives in terms of colors, brands, and sizes than in a store. Buyers can now consider retailers in different cities and countries and are not limited to an outlet in their town.

Formatted Information: Buyers can view information in a tabular format, giving a feature-by-feature comparison with competitive brands. In contrast, customers in stores have to inspect a single brand and remember different attributes to make a comparison.

Virtual Community Networking Sites: Such sites help a customer get a view from other customers, allowing him to make an informed opinion. There are also sites of various virtual communities, such as a site for pregnant women. The site offers advice for pregnant women and facilities for chatting. Different medicines, apparels and books for pregnant women would be discussed and opinions and experiences shared.

Personalisation: Personalised offerings can be made to customers based on their previous buying history. For example, Amazon creates a personal home page for customers with information about books and products of interest based on past purchases. They also get customised emails informing them of any new books by their favourite authors. Amazon recommends complementary merchandise as well.

Selling Merchandise with Touch and Feel Attributes: When a customer visits a store, he appreciates the colour and the style of apparel by 'looking'. Similarly, the tastes of food items, the smell of perfumes and the fitting of apparel are experienced by actual 'touch and feel'.

These attributes of 'touch and feel' are difficult to replicate on the internet. This is a significant difference between physically visiting a store and purchasing online. Due to this, customers prefer buying familiar and well-known brands on the net rather than unfamiliar products. They are confident about the quality of the product and sure about its consistency.

Retailers with online presence are now using technology to convert touch-and-feel details in to the look-and-see the info. Directly merchandise can be viewed from different angles and perspectives using 3D imaging and zoom technology. The use of these technologies has increased conversion rates.

To overcome the limitations of trying out clothes, retailers have started using

virtual models. Online shoppers use a model that looks like them and can rotate it to evaluate how the clothes fit.

India Scenario

The Indian market for online retail has touched U.S. dollar 73 billion in the year 2022. Portals like Flipkart, Amazon, etc., have pioneered and led the online shopping market in India. The most popular product categories are electronic items, laptops, and peripherals, making up almost 36% of sales. Apparel, watches and accessories make up about 19%.

People are buying books, home décor, and even real estate on the internet. Amazingly, tier 2 cities account for a significant percentage of sales. Most of the well-known brands are entering the online space as a complementary channel. Both international and Indian brands are available online.

Problems and challenges remain in the form of weak logistics, distribution, high delivery costs and varied customer satisfaction.

12.5.4 Customer Relationship Management (CRM)

Customer Relationship Management is a process whereby customer data creates customer loyalty. Retailers use sophisticated software tools to manage this process. The process involves:

1. Customer database (collecting customer data)
2. Analysing the customer data and identifying target customers
3. Developing CRM programmes
4. Implementing CRM programmes

1. Customer Database

The customer database includes:

- a) History of the purchases made by the customer
- b) Customer contacts-visits to the website, kiosks, telephone calls etc.
- c) Customer preferences- customer likes such as favourite colours, brands, fabrics, flavours and apparel sizes.
- d) Descriptive information and psychographic data that can be used in developing market segments
- e) Responses to marketing activity- analysis of transaction and contact data provides information about responses to marketing activities

2. Analysing Customer Database and Identifying Target Customers

Sophisticated tools such as data mining and warehousing are used to detect patterns in the data. This allows retailers to create groups exhibiting specific common characteristics. These are called market

segments. Examples of such groups could be:

- a) Group of customers who like fashion and value customer service
- b) Group which is highly price sensitive

3. Developing CRM Programmes

Programmes are developed for segments of customers based on their profit potential.

- a) Frequent shopper programmes- incentives are provided for repeat purchases. Points are accumulated and redeemable for special rewards.
- b) Personalised services

4. Implementing Programmes

The whole team, including the MIS, frontline service providers, and stores staff, must work as a team to ensure that the program is well-implemented.

Benefits of CRM to the Customer

- a) Improved customer service and satisfaction
- b) Customer loyalty is rewarded
- c) A customer's history is studied, and special offers are made, keeping his tastes in mind
- d) Various promotions and offers are made to target segments
- e) SMS can be sent to customers for various happenings in retail stores, etc.
- f) Cross-selling and up selling are done to customers based on their preferences

Self-Assessment Activity

Choose any online retailer that you may have recently visited. Explain your entire experience of navigating the website and purchasing online (Base your discussion on internet retailing)

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12.6 LET US SUM UP

It can be seen that technology has permeated every area of retail operations. The vendors and retailers are linked with each other through extranets, which are extensions of the intranet. This allows inventory to be optimised and reduces stockouts.

The point-of-sale hardware and software allow for speedy checkouts. All types of customer issues are tackled at the point of sale, greatly increasing

customer convenience. Bar codes and RFID allow the stocks to be tracked without the any paper recording, reducing the labour costs for the retailer significantly. These cost savings can be passed on to the customer. This superior tracking with barcoding or RFID reduces stock-out situations, and secondly, the checkouts are quicker as invoices are created with the help of technology.

Communicating with customers has become simpler with digital signage and kiosks. Instant and attractive messaging, product and price information and special promotions are some of the benefits of these technologies. Internet retailing is now a reality and has become essential to the retail mix. It allows the customers more excellent information and will enable him to make an informed decision with a broader choice.

CRM tools allow retailers to understand customer segments and their preferences, allowing them to service their specific needs better. Customer loyalty is rewarded through the implementation of CRM programs.

Key Learnings:

Technology in Retail Operations:

- Technology has integrated into various facets of retail operations, transforming traditional methods.

Extranets:

- Vendors and retailers connect via extranets, extensions of intranets, facilitating optimized inventory management and reducing stockouts.

Point-of-Sale Systems:

- Point-of-sale hardware and software enable swift checkouts and address customer issues directly, enhancing convenience.
- Barcodes and RFID technology streamline stock tracking without manual recording, significantly reducing labor costs and potential stock-out situations.

Customer Communication:

- Digital signage and kiosks simplify communication with customers, offering instant, attractive messaging, product details, pricing, and promotions.
- Internet retailing has become integral, providing customers with extensive information for informed decision-making.

CRM Tools:

- Customer Relationship Management (CRM) tools help retailers understand customer segments and preferences.
- CRM programs reward customer loyalty by tailoring services to specific customer needs.

12.7 KEYWORDS

RFID: Radio-frequency identification uses a semiconductor (microchip) in a tag or label to store data

POS: Point of Sale is the location where the transactions are done.

CRM: Customer relationship management is a process whereby customer data is used to create customer loyalty.

KIOSK: It is a store operated out of a booth a merchant-supplied kiosk of varying size and shape, which is usually enclosed with the operator located in the centre and the customer approaching the vendor from across a counter.

12.8 TERMINAL QUESTIONS

- 1) What do you understand by POS hardware and software? What are its benefits to the customer?
- 2) Discuss the various technologies that are being used by retailers in creating customer value.
- 3) What is RFID? Explain the role of RFID in creating customer value. How is it different from bar code?
- 4) What role do kiosks and digital signage play in creating value for communication?
- 5) Discuss in detail the advantages of internet retailing.
- 6) What are the features of POS?

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