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Technological Influences in Indian Retail Sector

Management

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ABSTRACT

Retailing is a technology demanding industry. It is a acknowledged fact that the retail business forever works on cut-throat slender boundaries and the explanation to endurance lies in optimization of possessions both in space and time extent as well as maximization of buyer fulfilment. Successful retailers today work intimately with their trader to forecast consumer insist, curtail lead times, decrease inventory asset and eventually save outlay. As a result, the equipment prolongs to grow and retailers investigate for ways to compute procedural business value and to poise the efficient consumption of the industrial reserve. Retailers want to get more value out of technologies and certify they are spending their restricted possessions in ways that improve their overall offer to the buyer. Technology has verified to be an aggressive weapon in retail, which is a vivid shift from a decade ago. In response, retailers normally need to suit more regular in overseeing the IT function. Implementing and delivering IT scheme on instant and on finances is devastating adequate devoid of the scheme team in view of their project's interdependencies with other industry proposal and communal goals.

INTRODUCTION

Retailing is the trade activities that put in charge to the commodities and services sold to clients for their individual or family use. Retailers are an input module in a supply chain that links company to consumers. A supply chain is a set of firm that build and distribute goods and services to clients. These value-creating deeds include only if a variety of commodities and services, breaking immensity, holding inventory, and if services (Levy and Weitz, 2012). The utilities offer by vendor produce value for clients. Time, place, form, and tenure utilities are accessible by most merchant in changing degrees, but one efficacy is often emphasized more than others. Some utilities are time value, place value, form value, and possession value. Many merchant are following augmentation by intensifying their operations to other countries. Walmart ruins the acknowledged leader in the trade industry, with transaction that is extra than three times better than those of Carrefour, the second largest retailer. The major 230 retailers operated in 6.8 countries on average, with 21.3 percent of their sales coming from outside the retailers' home countries. Retailers headquartered in Europe are more global than U.S.-based seller (Levy and Weitz, 2012).

Industry of trade in India that has turn into current can be seen from the reality that there are multi-stored malls, huge shopping centres, and extensive complexes which offer food, shopping, and entertainment all under the same roof. The approximate value of the Indian retail sector is about USD 650 billion presently. India's retail segment will turn into a USD 2.2 trillion prospect by 2020. By that time, there will be close to 150 cities with population of over 0.3 million that will fuel retail growth. Further, current trade, which at present stands at 5 percent, will grow about six times from the existing USD 24 billion to USD 143 Billion in the next 8 years (Shilpa Gupta, 2012). In the Indian retailing industry, food is the most dominating segment and is growing at a rate of 9% annually. The branded food industry is trying to come in the India retail industry and renovate Indian clients to branded food. Since at present 60% of the Indian grocery basket consists of non- branded items. India retail industry is continuing well and for this to carry on retailers as well as the Indian government will have to make a mutual effort.

Rank	Name of the Company	Country of Origin:	Countries of Operation	Annual Revenue in $ Bn (2011)
1	Wal-Mart	U.S.	27	421.85
2	Carrefour	France	36	122
3	Tesco	U.K.	14	94.19
4	Metro AG	Germany	33	89.09
5	LIdl	Germany	25	82.4
6	The Kroger	U.S.	1	82.19
7	Costco Wholesale	U.S.	9	77.95
8	Aldi Einkauf GmbH	Germany	18	67.70 (2009)
9	The Home Depot	U.S.	5	67.997
10	Target	U.S.	1	67.39

Table.1 Top 10 Retailers in the World

TECHNOLOGIES USED IN RETAIL INDUSTRY

The information requirements of the vendor mainly depend on the extent and the increase of the association. In most cases a small boutique operator or a small merchant like the baniya can do physical billing and collect a fair quantity of information by making a phone call or making a individual visit to the store. With an augment in the number of stores and /or an augment in the number of products sold in the store, assembly of information becomes decisive technology plays an essential task in gathering this information and making it accessible to the right set of persons (Sree Rama Rao, 2010). Majority of the trade operations functionality is driven by tailored point solutions in areas such as merchandizing, supply chain management, in-store operations, seasonality and promotions planning. Retail operations are intrinsically difficult due to four factors:

a) Product intricacy. The retail segment has a high degree of product difficulty, with the number of SKUs in stores running somewhere from the tens of thousands to more than two hundred thousand, a high level of recurrent and smart items, and a lack of consistency of product hierarchies.
b) Supply chain challenges. With so many diverse outlets and channels, several hands off, and high incidence of replenishment, increasing and managing an competent supply chain ruins one of the primary challenges in the trade sector.
c) Scale complication. Retail operations are executed on a really intricate scale. It deals with hundreds of millions of business per day, obsessed by millions of clients who shop during tens of thousands of outlets.
d) Process intricacy. The trade process that sustain this situation are also intrinsically intricate due to the multiple touch points across players in the value chain (manufacturer, distributor, retailer, consumer), the synchronization necessary between the dissimilar planning cycles of each of these players, and geographic dispersal.

Increasingly, technology is in performance ever more significant task in retail success. Information Systems, starting with customer records, inventory control, loss avoidance, supply chain, workforce management and business intelligence altering the competence and efficacy of retail operations to a point where retailers who do not hold the technology move to the front of businesses that are condemned to fail. Even those retailers who

believe they comprehend the 6 Pillars of Success in Retail: People, Price, Product, Promotion, Place and Pixel, still cannot reach the levels of accomplishment they struggle for because of their unstable focus on Product/Merchandising. Technology used in retail stores comprises front end and back-end solutions and technology that join retail stores and chains to project wide business solutions. Retail knowledge preferably improves the client skill with view to service and competence (Neil Kokemuller, n.d.). Point-of-sale (POS) terminals are a main section in retail store skill that is used in the front-end. This includes computer terminal and accessories for managing sale business. Disbursement processing equipment, including card machines is also vital at the POS. Timekeeping systems are also used. Explanation of the technologies used in retail stores are briefed in the following paragraphs.

POS Point of sale (POS) or Checkout:
POS refers to the area of a stock up where clients can pay for their purchases. The term is usually used to depict systems that trace monetary transactions. This might be a manual system, an electric cash record or an incorporated computer system, which records the data that encompass a business operation for the sale of supplies or services. POS is simply the location where the sale is conducted, money changes hands and a receiving is given. For SME retailers, the POS will be tailored by retail industry as diverse industries have dissimilar needs. The modern point of sale will also comprise complex functionalities to provide to diverse verticals, such as supply, CRM, financials, warehousing, and so on, all built into the POS software. Prior to the current POS, all of these functions were done autonomously and compulsory the manual re-keying of information, which resulted in a lot of errors.

2.2. Barcode and UPC
The Universal Product Code (UPC) is a barcode that is extensively used in retail stores for tracking trade objects in stores. Its most widespread form, the UPC-A, consists of 12 numerical digits, which are exceptionally dispensed to each trade item. Along with the associated EAN barcode, the UPC is the only barcode permissible for scanning trade items at the point of sale, per GS1 standards.UPC data formation are a constituent of GTINs (Global Trade Item Numbers). All of these data structures track the global GS1 values.

2.3. Electronic Point of Sale (EPOS)
Electronic point of sale systems (EPOS) is the mechanized systems that are used by retailer's modern tills and related systems. Their basic functions comprise scanning bar codes or radio frequency ID tags to recognize products, scanning credit cards, and cash handling. EPOS can also join with the customer's smart phone, tablet, laptop, or mobile. EPOS systems do not only handle business. They can also join to networks making information on sales immediately available. This is useful for providing management with information for decision making, and for improving logistics and stock control. Stock control improves because with precise sales data a seller knows precisely how much of any given item is accessible at any given locations as well as how fast items are selling at each location. This resource less working assets is required, while at the same time the chances of consecutively out of any item can be condensed. Large retailers tend to have very complicated logistics systems and the data from EPOS systems is a vital to these.

2.4. Kiosk Technology
Self-service ordering kiosks are automated touch pads that facilitate clients to order made to order sandwiches more proficiently than by speaking with a counterperson. The system is simple to use and offers custom choices. If the consumer requirements extra mayonnaise, the sandwich can be intended as such. In a typical c-store, clients begin at the ordering kiosk; walk all through the store to shop for additional items, pick-up the sandwich and end at the cashier. More recently, supermarket shoppers use self-service leave kiosks, gas-buyers pay-at-the-pump, airline passenger's check-in at self-service kiosks and trade traveler's check-out using hotel kiosks. Expediency store chains like Wawa and Sheetz have been using self-service kiosks for their food service programs for years with strange success, and chains like Rutter's Farm Stores and White Hen Pantry have since followed suit.

2.5 Portable Data Terminals (PDT) and Hand Held Computers
A transportable data terminal, or PDT, is an electronic device that is used to enter or regain data via wireless transmission (WLAN orWWAN). They can also serve up as barcode readers, and they are used in large stores, warehouses, hospitals, or in the field, to contact a database from a remote location. PDT's recurrently run wireless device management software that allows them to cooperate with a record or software relevance hosted on a server or mainframe computer. A mobile device is a small, hand-held computing machine, usually having a flaunt screen with touch input and/or a tiny keyboard and weighing less than 2 pounds.

2.6. RFID
Radio Frequency recognition in the retail industry has explained major problems associated to customer services. With the help of RFID it turns into easy for the sales team to place a particular item in the store and check its ease of use in less time. It's a data gathering expertise that uses electronic tags for storing data. The tag, also recognized as an "electronic tag", "transponder" or "system protect" is made up of an RFID chip fond of to a receiver. Like bar rules, RFID tags categorize items. However, dissimilar bar codes, which must be in close nearness and line of sight to the scanner for interpretation, RFID tags do not necessitate line of sight and can be implanted within packages. Depending on the type of label and purpose, they can be converting at a varying range of distances. RFID tagged container enduring on a conveyer secure can be interpreted many times faster than barcoded boxes. RFID in retail helps in the subsequent ways:

(a) Progress the level of buyer service
(b) Amplify customer's trustworthiness
(c) Enhanced Inventory Management
(d) Entry level tracking

The prospect of RFID is very intense in retail sector, as accurate from supply management to product mechanized, this system offer a more competent and sophisticated retail incident to both the purchaser and the merchant.

2.7. Store Traffic Counters
For merchant, one of the most significant new technologies of the 21st century is a comparatively simple electronic device: the stock up transfer offset. Traffic is reckoned inflowing and exits a store using one or more sort of activity detector. This quantity is evaluated to the figure of sales dealings during the same era, which construct an adaptation rate. People including scheme or "Foot transfer defy" provide expensive data on buyer traffic information incoming in retail store. A fixed cost antenna is set up at each purchaser entry point and precisely calculates consumers, even those in cluster. The strategy is associated to a computer or Server and proposes a state of the art exposure scheme that offer thorough visitor passage study. People counting systems can evaluate data from point-of-sale structure with a precise people count and produce traffic and transaction exchange information if organization with immediate response from sales strategy and in-store promotions.

2.8. Surveillance & Security
Transaction today is a powerful business and store owners face many dispute. The most apparent of these are burglary and stock decline that have into the stores' profits. Retailers now promote from store fortification scheme including CCTV arrangement, which can testimony illicit action in provisions, as well as labeling systems, cited by shop doorway, which aware staff to robbery. Trade scrutiny using complex video clarification such as IP cameras is an exceptional weapon in the combat to defend business. By prevent crime, it decrease losses and generate a safer atmosphere for workforce and clients. The key distinction between conventional CCTV and network video scrutiny is that a complex system is IP-based. In other terms, scrutiny descrip-

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tions are arrest and dispersed over an IP network. Shop owners, managers and defense skillful can hence observe these descriptions from their desk or definitely any spot with an Internet link. They can even observe numerous retail outlets at the similar time. Recorded descriptions are typically stored slightly or in the store itself.

2.9. Retail Accounting Software

The right data, in the right form to the right setoff people at the right time, is one of the maximum tools in the hands of the retailer. Information is forever with indication to an exacting time frame. Accounting software is submission software that account and method accounting business within efficient modules such as accounts payable, accounts receivable, payroll, and trial stability. It functions as an accounting information system. Accounting system for retail procedure are more than just point of sale systems. An included retail accounting software organization offer a suite of tools intended to make retail process more competent, easier to supervise, and more lucrative.

2.10. Inventory Control Software

An inventory control scheme uses barcode skill to mechanize the track of products. A catalog control system is a set of hardware and software base tools that computerize the procedure of follow inventory. The kinds of supply tracked with a record control system can comprise more or less any type of experimental good, with food, clothing, books, equipment, and any other item that clients, retailers, or wholesalers may acquire. Contemporary inventory control systems are almost entirely based on barcode skill. Though barcodes were primarily urbanized to computerize the method of grocery store checkout, their facility to instruct a wide range of alphabetic and numeric signs makes them perfect for programming products for record purpose Inventory control systems effort in real-time using wireless skill to convey information to an essential computer scheme as communication arise.

2.11. Electronic Data Interchange (EDI)

Communication within the business can be earlier with the use of software like Lotus Notes. Retail provisions can also converse with each other and with the storehouse. Electronic Data Interchange (EDI) can also be worn for communication with suppliers and wholesaler. Electronic Data Interchange (EDI) is the computer-to-computer swap of business credentials in a typical electronic format amid business partners. By moving from a paper-based swap of business text to one that is electronic, commerce enjoy major remuneration such as condensed cost, augmented processing speed, condensed errors and enhanced associations with trade partners. EDI restore postal mail, fax and email. While email is also an electronic come near, the credentials exchange via email must still be switch by community rather than computers. Having people concerned slows down the dispensation of the credentials and also begin errors. Instead, EDI documents can stream instantly through to the suitable purpose on the receiver's processor and giving out can commence instantly.



Figure.1 Typical Manual Process



Figure.2 EDI Process

CONCLUSION

The structured retail segment has renowned that IT can give it and periphery over the global competitors and the locality kirana store. It acquires some time for IT vendors to comprehend the vast latent in retail; the segment itself had been a little slow in leveraging IT. Now that the smoke has cleared, vendors are unveiling a complete range of IT products and solutions for the retail sector. The three leading trends in the consumption of IT in this fast rising trade are the authority of package solutions, the focus on supply chain optimization, and the new constrain towards IT in store operations. Wal-Mart employ a skill that repeatedly reload reserve when an acquisition is made, ensuing in fewer case of a product running out. The structure, called retail link, posts an order online for the trader after the item is scanned at the checkout. With the augment in globalization of retailers both in terms of their points-of-sale, as well as their points-of- supply, the information technology spend in the trade sector has augmented significantly and plays a gradually more significant role in managing the intricacy of retail maneuver.

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