Research Paper Management

Information Technology Revolution in Retail Sector

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ABSTRACT

The information technology and its solutions are increasingly used in retail sector. There are many areas of enterprise mainly to improve the functioning of an enterprise, management of information and more efficient customer service. The technological solutions are creating new opportunities and challenges to the retailers. Information technology can not only improve the process of the enterprise, but also affects the business relationship with customers. Information technologies include among others such solutions as RFID, Kiosk Stores with touch Screen, Electronic Shelf labeling, the mobile shopping system etc. Today's retailers need to transform their information technology capabilities because retailers are facing toughest issues ever experienced before in the sector. The consumers shop to greatly increased expectations for service and price. Over the years as the consumers demand increased and the retailers are also gearing up to meet the expectations, technology is also evolving rapidly to meet the expectation. The hard ware and software tools have now become almost essential for retailing.

KEYWORDS Retail business operations, Information technology, forecasting, shopping experienc

Introduction:
The retail business has been around from the centuries. The retail business started with a general shop to cater the needs of the people of local community for necessity. As societies advanced with population increase leading to expanded cities. Advancement in information technologies offers a possibility of implementing a great number of innovative solutions in retail. These solutions aim to increase the effectiveness of a retail enterprise and improve customer service. Information technologies may be applied to different areas of operation of a retail enterprise, for example supplies, stock control, logistics, customer service, back end operations etc.

Retailers need to transform their IT Capabilities for a number of reasons. These include

⇒ To increase the company's ability to a rapidly changing market.
⇒ To analyze customer data and to enhance differentiation.
⇒ To operate the business more effectively retailers need to have systems working across stores to ensure the effective use of products and to support optimized business process.

Information Technology: -
Information technology is a combination **of** people, hardware, software, communication devices, networks and data resources that processes (Storing, retrieving and transforming information) data and information for a specific purpose. Information technology refers to the total requirements for handling information in an organization.

Advancements in Information Technology are constantly transforming competitive dynamics in market place. One of these advances is RFID which benefits the retailers in improved inventory management, improved store management and integrated business model for inventory and supply chain management. Additionally, three critical risk factors for implementing RFID in retail industry were determined which include: (a) Lack of expertise (b) Complexity of technology and (c) Uncertainty of demand to establish a clear path and strategy to implement the technology

Information technology, as defined by the Information Technology Association of America (IIAA), 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 system industries, information technology is the capability of 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.

Review of Literature:
The modern information solutions are increasingly used in the retail trade. These are used in different parts of an enterprise mainly to improve the functioning of an enterprise and more efficient customer service. Information technology not only improves the process in business enterprise, but also affects the relationship with customers. (Barbara Kucharska)

The most retailers remain unaware of substantial benefits of leveraging IT into their operations. They also lack a suitable road map on the types of products and services available in the changing terrain of the IT industry in general, and in the emerging areas of the data mining , data warehousing, and supply chain management in particular. The information technology systems have the potential applications in retailing. (Bharat.P.Rao)

Need of Information Technology in Retailing
The important needs of the retail organization include.

1. Product Information: Availability, supply, demand, new launches etc.
2. Operating information: inventory, shelf space, procurement, logistics etc.
3. Customer information: details, preference, activities, distribution etc.

Factors Responsible for the need of IT in retail:
A number of factors are responsible for the need of information technology in retail. Some of the important factors are

1. Globalization of business operations: Global operation requires that both time and distance barriers is eliminated or minimized. As the retail industry has become more global in its procurement and marketing operations it requires a great use of information technology to reduce the time and distance barriers.

2. Technology revolution: In a short span of time we have

seen the commercialization of information technologies. The performance and price of new information technologies is making them more affordable and useful to the organization. Information technologies are highly integrated with the advent of end to end digital technologies, it is possible to transmit, store, process and distribute forms of information on a single integrated technology.

3. Competition: Competition forces the retailer to become more efficient and effective. To gain the competitive advantage by the use of information technology is

- Reduces operating costs through automation
- Improves the product or service quality by providing quality assurance
- Information technology provides quality assurance with product differentiation

4. Forecasting: It is the process of estimating the situations. Business leaders and economists are continually involved in the process of trying to forecast, or predict, the future of business in the economy. Modern demand forecasting systems provide new opportunities to improve retail performance. The new approach to demand forecasting in retail will contribute to the accuracy of future plans, the overall efficiency and profitability and profitability of retail operations.

5. Inventory Management: Inventory can be either raw materials, finished goods, finished items for sale or goods in the process of being manufactured. In order to optimize the effectiveness of retail outlet, retailers need to manage the uncertainties, complexities across other supply chain on continuous basis. Information technology allows retailers to improve their inventory forecasting ability and to set inventory targets.

6. Store Management Systems: Information technology is beneficial for store management systems that give alerts to stock-out items. Store systems are types marketing systems that use business process information systems to elevate and transform the retail shopping experience of a shopper in both store-based and disinter-mediated retail shopping environment.

Information technology and its applications in Retail Sector: The applications in retail store can be characterized in two forms

1. Store Front Technologies: Today store front or inside store operations are greatly supported by technology, they include the following

(a) Point of sale terminals
(b) Payment Applications
(c) Radio Frequency Identification
(d) Smart Operating System
(e) Survivelence Cameras
(f) Customer Relationship Management Applications

2. Retail Store Back end Technologies: The Retail store back or back end technologies involves technologies for back end operations of a retail they include the following

- Time and Attendance tracker
- Real time stock locator
- Computer based training
- Auto replenishment and store orders
- Personnel Management
- Store ware house Management
- Enterprise Resource Planning
- Logistics Management

Emerging Technologies in Retail

Digital Shopping Kiosks: Retailers use digital technology to enhance the shopping experience for the shopper by empowering sales associates and shop floor personnel in providing customer service inside a store. Digital shopping kiosks offer opportunity to order the variety, assortment and consistency of merchandise that is not displayed at the store when the shopper seeks it. Digital or interactive kiosks offer unparalleled online shopping access to the shopper to complete the shopping visit and free frontline retail shop floor staff to attend to other shoppers' needs and requests. At the same time shoppers can use kiosks to learn more about merchandise and seek out solutions.

Personal Shopping Assistants: The Personal Shopping Assistant (PSA) is a touch screen equipped tablet personal computer with built-in wireless connectivity to support in-store mobility by the shopper. The PSA is portable and its integrated keyboard technology enables consumers to affix the PSA on top of their shopping cart and shop the store. PSA enabled shopping is a highly cost-effective method of providing personalized customer service in the store as this shopping device allows shoppers the independence to shopping with the convenience of personalized, digital assistance.

Store Systems: Store systems are types of marketing systems that use business process information system to elevate and transform the retail shopping experience of a shopper in both store based and disintermediated retail shopping environments. The share of retail sales transformed over e-commerce and mobile phone as well as smart phone channels is expanding as Omni-channel touch points become more convenient and easy to access by shoppers. At the same time, the brick-and-mortar stores remain the focal point of shopping of the customer's retail experience.

Conclusion: Technology is an indispensible part for the modern retail to grow. Even the traditional retailers are adopting technology for rapid evolution of retail and for demanding consumers. Retailers are also engaging with shoppers more actively and customer service is a domain where retailers are evolving varying stages of maturity: Store interaction, online channel and social media channels.

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