Chapter 14
Retail and Internet of Things:
A Digital Transformation

Reena Malik

Chitkara Business School, Chitkara University, Punjab, India

ABSTRACT

The Indian retail sector is transforming rapidly propelled by rising household income, technology advancements, e-commerce, and increased expectations. Radical changes are evident in the retail landscape with the advent of the internet. New innovative technologies are being used by the retailers in order to provide seamless and unique shopping experience to the customer. Internet of things is one of the technologies creating competitive advantage in the world of retailing, and now smart retailing is in trend to cater to enhanced customer expectations. This study aims to understand concept and explain applications of internet of things in retailing and also discusses IoT as an opportunity for retailers, companies using IoT technology, and obstacles in adopting IoT especially in the retail sector.

INTRODUCTION

The advent of internet give rise to technological advance world and Internet of things is the new buzz terminology which is used for machine to machine connectivity. The internet of things is shaping almost all business sectors and retailing is one of them making retailing smarter beyond our imagination. Internet of things is a combination of artificial intelligence and machine learning making the collected data useful for the marketers. One best example of IoT is at your home fridge reminding you about milk requirement and controlling your air conditioner while sitting at office. Internet of things will prove disruptive to the retail industry (Gregory, 2015). Internet of things has a strong impact on retailing and retailers are now focusing on providing better in store shopping experience for the customers making it much more unique, efficient and of course profitable as IoT offers the ability to interact with both devices and people which further provides information on brand performance, present and potential customers, customer engagement, introducing new product, store layout optimization. Companies like American Apparel, Kroger, Tesco, Wal-Mart has been using robotics, RFID tags for enhanced customer service and brand experience. Digital technologies have opened the doors of availability of diverse and

rich information for the customers and the way it can be accessed on multiple devices. The prevailing competition has given customers a lot of choice to choose from. Digital transformation provides various tools to analyze these vast choices like business analytics and other predictive tools which helps retailers to understand customers and framing marketing strategies accordingly. Every customer is different and wants to access the information in their own way as consumers are more aware about all the possibilities, thus digital retailing provides different channels to choose from like physical store, online store, social media platform and mobile communications as well. IoT assists customers and salesperson to locate goods where stores are equipped with sensors which lowers down the requirement of sales staff as the details can be provided on digital display. IoT proved very helpful in delivering the right product at right time ensuring maintained condition from shipment to arrival. It also aids in saving energy and costs, helps businesses to save money as the technology enabled devices can automatically keeps check on wastage. IoT in retail has witnessed strong shift in consumption, shopping behavior. According to Capgemini, 2020 report, 69% percent of consumers overall – and more than 80% of consumers in China and India – prefer to shop with retailers who are using automation and believe that automation can be the solution for the problems experienced while shopping in store.

REVIEW OF LITERATURE

Retail sector is changing drastically with the advent of internet and technological advancements. As it is not about only selling products, but providing exclusive purchase journey by providing interactive and engaging customer experience (G.J. ten Bok, 2016). Internet of things is one of the innovate things been adopted by retail sector also considered a way of achieving competitive advantage (G.J. ten Bok, 2016). Auto-ID Labs originated the tem internet of things while working on networked RFID infrastructure at the Massachusetts Institute of Technology (Wortmann and Flüchter, 2015). Omnichannel experience in retail is being provided by various ways like RFID tags, sensors, virtual reality, Wi-Fi (Iotuk.org.uk, 2017). IoT has been used for linking actual and virtual world together providing 24x7connectivity. It has also used by the retailers for identifying right customer at right time (Vermesan et al., 2009). Retailers are identifying needs of customers thus improving sales (Maltseva, 2018). Enhance customer loyalty can be achieved by introducing new and innovative techniques that provide better shopping experience (Mckinsey.com, 2016). The importance of providing customer a unique experience by using AI and IoT techniques is of utmost value as it drives the sales (Mohapatra and V. Krishnan, 2018). E-shopping carts or smart carts which leads to enhance user experience and drive numbers (Pavaluru, 2017). The study by Atos, investigated about the future of retailing and the impact of technology on current retail outlets. IoT in order to penetrate technology will provide unique opportunities for developing innovative business models to increase the market share and capturing more market (Narasimha, Vijaya. 2015). According to McKinsey report on IoT, retail environments are being considered as physical spaces to purchase different offerings (product or service) by the marketers including traditional retail outlets and showrooms like bank branches, sports complexes etc. Customers are now expecting a better shopping experience with application of advance technology due to advent of internet and technological advancements in the sector. Internet of things has been considered as new wave of e-commerce in the world of retailing for providing unique shopping journey every time.

Related Content

A BIM Based Application to Support Cost Feasible 'Green Building' Concept Decisions
Goh Bee Hua (2010). *Handbook of Research on Building Information Modeling and Construction Informatics: Concepts and Technologies (pp. 335-362).*
www.irma-international.org/chapter/bim-based-application-support-cost/39479

Technology, Agency, and Community: The Case of Modding in World of Warcraft
Bonnie Nardiand Jannis Kallinikos (2010). *Industrial Informatics Design, Use and Innovation: Perspectives and Services (pp. 174-186).*
www.irma-international.org/chapter/technology-agency-community/44244

A Study of Product Development Engineering and Design Reliability Concerns
Daniel Aikhuele (2018). *International Journal of Applied Industrial Engineering (pp. 79-89).*
www.irma-international.org/article/a-study-of-product-development-engineering-and-design-reliability-concerns/202422

Mathematical Modeling and Genetic Algorithms for Product Sequencing in a Cellular System
Gürsel A. Süerand Fatih Yarimoglu (2014). *Handbook of Research on Design and Management of Lean Production Systems (pp. 31-47).*
www.irma-international.org/chapter/mathematical-modeling-and-genetic-algorithms-for-product-sequencing-in-a-cellular-system/101401

Application of the Theory of Constraints (TOC) to Batch Scheduling in Process Industry
Dong-Qing Yao (2012). *International Journal of Applied Industrial Engineering (pp. 10-22).*
www.irma-international.org/article/application-theory-constraints-toc-batch/62985