

**Smart Customer Experience Management - A strategic digital
differentiator in Retailing for enhancing customer loyalty and
profitability - A Study of Select Retailers**

*A thesis submitted to the University of Hyderabad in partial fulfilment for the
award of the degree of*

**DOCTOR OF PHILOSOPHY
In
MANAGEMENT**

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DECLARATION

I, Pasnoorwar Vikrantkumar Laxmikantrao, hereby declare that the thesis entitled “**Smart Customer Experience Management - A strategic digital differentiator in Retailing for enhancing customer loyalty and profitability - A Study of Select Retailers**”, submitted by me under the guidance and supervision of Dr. Chetan Srivastava, is a bona fide research work which is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this University or any Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga / INFLIBNET.

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CERTIFICATE

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A. Paper publications in the international journals

1. P. Vikrantkumar and Dr. Chetan Srivastava (2021). Enriching Smart Customer Experience to Build Customer Loyalty and Higher Profitability through Digital Revolution in Retail 4.0. *Education & Psychology*, (2021) 58(2): 7001-7009, Feb 2021
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Abbreviations

CE	Customer Experience
CEM/CXM	Customer Experience Management
SCEM	Smart Customer Experience Management
SRT	Smart Retail technologies
IoT	Internet of Things
AI	Artificial Learning
AR	Augmented Reality
VR	Virtual Reality
MR	Mixed Reality
ML	Machine Learning
RFID	Radio Frequency Identification
CAGR	Compound Annual Growth Rate
CRM	Customer Relationship Management
IBEF	India Brand Equity Foundation
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GST	Goods & Services Tax
RoI	Return on Investment
SEZ	Special Economic Zone
FSSAI	Food Safety and Standards Authority of India
CIFA	Consortium of Indian Farmers Associations
PoS	Point of Sales
TAM	Technology Adoption Model
ICT	Information & Communication Technology
OCE	Orchestrated Customer Engagement
SD	Service Dominant
PU	Perceived usefulness
PEOU	Perceived ease-of-use
UTAUT	Unified Theory of Acceptance and Use of Technology
SPSS	Statistical Package for the Social Sciences
AMOS	Analysis of Moment Structures
SEM	Structural Equation Modelling
CFA	Confirmatory Factor Analysis
SA	Store Atmosphere
SF	Store Facilities
CD	Customer Dynamics
TD	Technology Dynamics
CR	Critical Ratio
TAAM	Technology Acquaintance and Adoption Model
PR	Perceived Risk

Abstract

The world of retailing has changed dramatically over last two decades. Retailing truly follows the Darwin's theory, as the mighty retail has transformed in various paradigms of business over the last few decades and emerged as Retail 4.0 to be very precise due to the development of new smart technology era. Retailing has travelled a long journey via online retail, mobile retail, Omni- channel retail and reached the new milestone called Smart Retail.

In this era of technology driven smart retail, the customer's role has also evolved from mere customer to co-value creator. Consumer behaviour, buying process, brand preferences, service expectations all have changed over a period due to exposure to social media, online information sources and exposure to the latest technology like smart phones. Customers today do not give importance to what they want to purchase but also to the entire holistic experience during entire buying process which needs to be delightful at every touch point during entire purchase cycle.

The store-based retailers are at the receiving end from the online retailers on one end and from changing customer expectations and buying behaviour on the other. The convenience and comfort of shopping online is provoking more customer to shift. The touch and feel factor are the rescue tool for the store-based retailers. Hence with the help of customer experience management the store-based retailers are trying to withhold their position the retail world. Smart retail technologies are also emerged as the boon for the store-based retailers to enhance their performance and achieve sustainable business growth in the present competitive scenario.

In this study responses are collected from 689 customers who have used the smart retail technologies at least once in their shopping and the information about their shopping experience is collected via different items and that data is analysed using Regression, CFA, SEM and path analysis using SPSS and AMOS to understand the impact of smart customer experience upon the customers' satisfaction, loyalty and advocacy. This study also tried to understand the correlation between the customer demographics and the level of technology adoption among the retail shoppers. The present study is recommending the retailers a type of SRT most suitable for their business model so that it can be helpful for them to adopt and use for smart customer experience management to enhance their performance and achieve better results.

Also, the data is collected from sixteen such stores to understand the impact of Smart Retail Technologies upon the footfall, sales, revenue, and overall profitability of the retailer. This study will be helpful for the retailers to identify the role of SRT and its usefulness in their business.

This study may become especially useful for the retailers to guarantee prolonged and rewarding journey for retail shopper visiting the store as well as help the retail to transform this into a long-term relationship making the shoppers store loyal and consistent shoppers.

This research has also tried to identify numerous evolving SRTs and their usefulness for the new generation retailers for augmenting the inclusive customer experience for every shopper during various interceptions between the retailer and the customer during their shopping journey.

The study has proved that Smart Customer Experience Management acts as strategic differentiator for the store-based retailers in the changing retail ecosystem.

As a part of contribution this study also tried to add a new dimension to the famous TAM model by Davis and propose a new model related to the technology adoption in consideration of the perceived risk associated with any new technology.

Also, this study is trying to focus on the level of technology adoption in consideration with a new variable called Perceived Risk (PR) along with the existing factors named Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Hence a new formula is recommended to be used for Technology Acceptance more profound.

$$\text{Technology Adoption} = \frac{\text{Perceived Usefulness}}{\text{Perceived Risk Associated}}$$

1.0 Introduction

Retailing is a business concept emerged in the world to fulfill needs and requirements of every individual. Retailing is as old as human civilization. Over a period of 10000 years retailing moved from simple barter to the present generation digital stores, e-commerce, and omni-channel retailing in a phased manner of development. In this process of development technology has played a crucial role and nurtured the retail world and paved way for its transformation into new format time to time.

Long ago retailing used to be a simple barter system and then it shifted to paddler, hawker, temporary markets and then brick-and-mortar stores. Eventually in the modern business scenario retailing adopted more technology and upgraded itself to the virtual format as E-commerce, omni-channel retailing and then Smart Retailing under the flagship of Retail 4.0.

During early years the retail focus was on product and easy availability but over a period of time the focus shifted to the customer. Entire retail world has taken a sea change and ensured that entire business activities as well as strategies are now completely customer oriented. Also, in last few years customers buying and consumption patterns have changed drastically. Customers now has access to the technology and the large volume of data which effected customers buying habits as well as behavioral patterns.

Today, customers are not only concerned about the products they need, prices charged but also the supportive facilities and services in the retail business scenario. In fact, the present generation customers are purely concerned about the overall shopping experience during their entire shopping journey.

Retailers are now focusing all their efforts on ensuring a positive and delightful shopping experience for every customer visiting them. Customer experience management has become the primary focus area of the retailer's business strategy.

From last few years it is an ongoing tug-up war between E-commerce and Brick-and-Mortar Stores for the customers wallet share as well as mind share. E-commerce is competing with key factor of customer convenience whereas touch, feel and satisfaction are the prime focus factors on the store-based retailers. In this process Brick-and-Mortar Stores have shifted the focus on Customer Experience Management to ensure that not only good quality products are available at the competitive price but also a happy and enjoyable shopping experience can be

created and offered to every customer during complete shopping journey of the customer through various touch points with the retailer to make their store visit more fruitful and memorable.

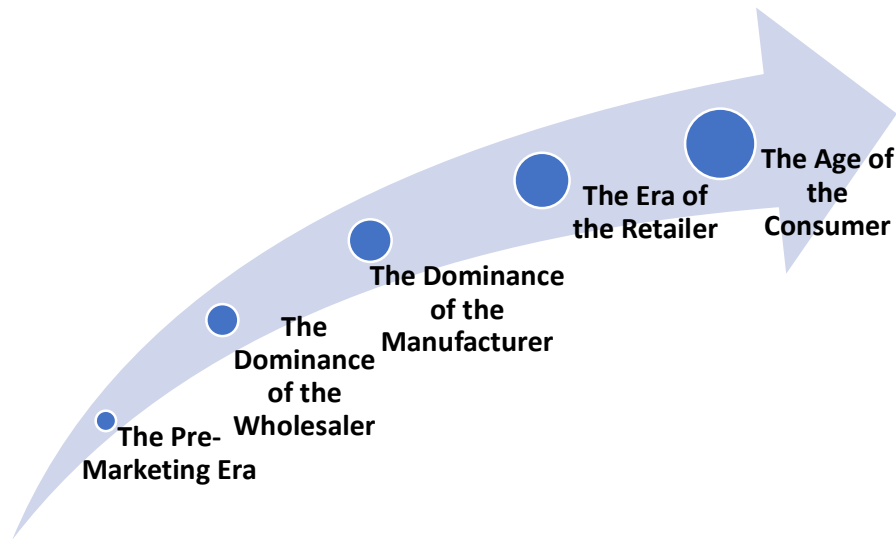


Fig1.1: Rise of Retailers

As indicated in the above Fig.1.1 it is clearly visible that the retailer business patterns are changing time to time and the era of wholesaler dominance, manufacturer dominance and retailer dominance is now over. Presently the retail world is completely dominated and focused upon the new generation customers.

Customers now have access to large information, greater access to the world, more choices as well as better control over their buying behavior and the consumption patterns. Customers are more aware about their needs, requirements as well as the solutions available in the market. Customers now expect more control on their shopping rather than somebody else recommending them or commanding their shopping process. In this transformation of the consumer behavior, technology has played a remarkable role. It is clearly visible that the future is digital and smart world.

Present generation customers are technology savvy. They have access to Internet, social media, digital communication platforms and information technology. This has created a strong impact upon customer buying process, expectation framing, consumption behavior and perceptions about the brands and the retailers. It has also created impact on price and quality concerns on the customers. Now customers want best quality products and services at the least possible price.

1.1 History of Retailing

Retailing has a history of over 10000 years. Retailing is as old as human civilization is. Even before the invention of currency, human being started exchanging the goods with each other to fulfil their needs viz simple barter system. Then slowly the retailing started developing over a time and reached today's Smart Retailing and Omni-channel retailing era.

Few titbits about ancient retailing are as follows:

- Back in 9000 BC, people adopted barter system for trade in the form of exchange of food grains, footwear, earthen pots, cloth & textile, cattle such as cows & sheep etc.
- In Mesopotamia during 3000 BC, first time in the trade world a proper currency was introduced to streamline the business transactions.
- World's first retail outlet was established soon after that.
- During 800 BC people established 1st of its kind marketplace called Agora in ancient Greece, where started selling their merchandise.



Image1.1: Agora in Ancient Greece

In the ancient era retailers used to sell the products to the customers of various the villages as peddlers, hawkers, and street vendors after the barter system. The paddlers and hawkers slowly

started selling through temporary stalls at the village haats and fairs. Afterwards the weekly markets like agora were in practice to cater the needs of customers from a nearby villages. Then the concept of permanent brick-and-mortar store has come into existence.

The timeline of Retail Evolution in the history is as follows:

Tab 1.1 Retail Evolution Timeline	
1200 BC	The ancient origins of the retail industry
1300 AD	Renaissance Europe marketplaces
1890 AD	High street hysteria
1910 AD	Self-service and the corner store
1930 AD	Mass modernization culture
1960 AD	The fashion boom of the Swinging Sixties
1970 AD	The dawn of supermarkets, hypermarkets and super centers: Modern Trade
2000 AD	Retail in the digital world: boom of E-commerce
2021 AD	Emergence of Quick Commerce
2025 AD	What does the future hold for retail?

- www.mytotalretail.com

The retail world has truly adopted to the Darwin's Theory of evolution and upgraded itself with the changing time to adopt the scenario and sustain all the challenges to reach the present generation digital and smart retailing. History has seen various phases of change in the retailing business and its struggle for the survival.

Over the generations retail has faced all challenges for the survival and emerged as the best solution for the need fulfilment of the society. Retailing has grown leaps and bounds by changing its formats and perimeters to overcome all hurdles in the world business scenario and emerged as one of the best modes of business. It is clearly visible from the interest of world's top business organizations either they are already in the Retailing business or planning to start one in near future.

1.2 Classification of Retailing

Retailing is classified on various criteria like the store v/s non-store-based retailers, based on the size of the store, types of merchandise they deal, type of ownership, pricing policies adopted and the type of customers they deal with.

Retailers are divided into various types to understand their business format, operations, customer coverage and business strategy adopted by them to establish, survive, sustain, and grow in the retail business world.

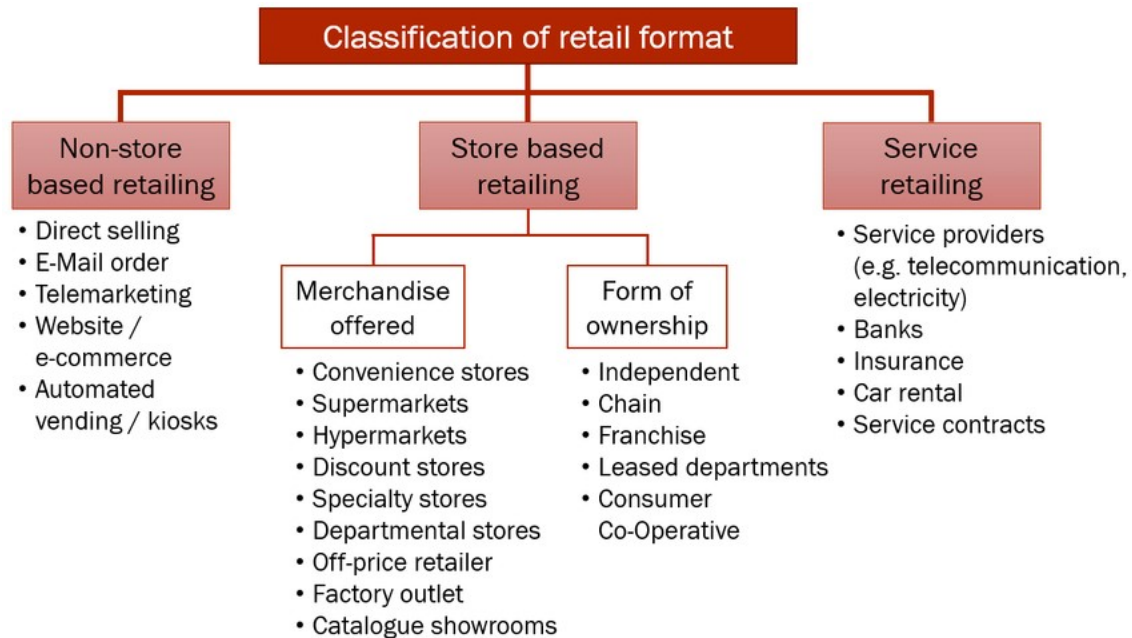


Fig: 1.2: Classification of Retailers

Various types of retailers have different types of target customers to deal with, different products to maintain, services to offer and different ways of pricing and promotion strategies to ensure the successful business. Many of these retailers use various types of technologies to improve their productivity, deliver better shopping experience and achieve greater profitability.

Some retailers' primary focus is large assortment with low pricing and other retailers may focus on premium products, better service, and upscale pricing. One common factor is in present scenario all types of retailers have become customer centric and all their business strategies are designed according to the customer needs, requirements, and expectations.

1.3 Role of Retailers

Retailers play a crucial role in the distribution network as final link between the manufacturer and the end user of products and services. Retailers bring the producers and buyers together. Retailers have large protentional to influence the buyers as they directly in contact with them. Retailers also capable of providing valuable feedback about the customers buying preference,

product performance, competitors position as well as any change or modifications are expected by the customers. This feedback may be very useful for the manufacturers and distributors to plan their business strategies.

Similarly, the retailers play a trivial role of bridge in the distribution system. Retailers bridge following gaps in the market:

- Time Gap
- Space Gap
- Quantity Gap
- Variety Gap

Retailers fill the above gaps and ensure that proper product reach the suitable marketplace at the appropriate time and ensure the full convenience and shopping comfort for the customers.

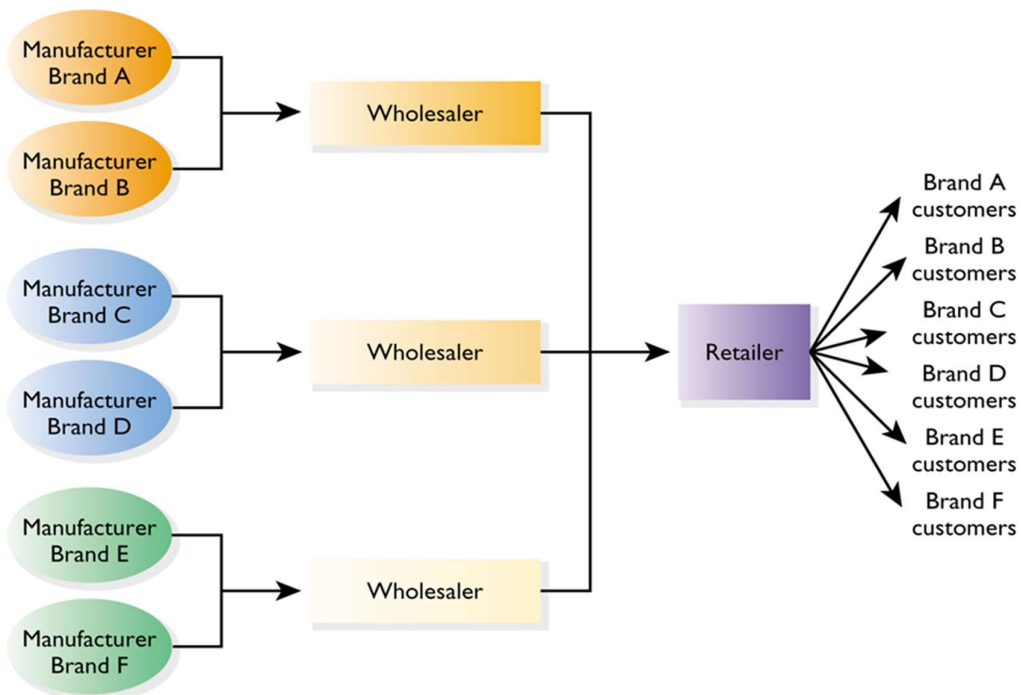


Fig.1.3: Role of Retailers

Thus, the retailers ensure a vertical integration of the business with its presence in the distribution network. All the above activities clearly show that the role of the retailer is completely customer centric.

1.4 Functions of Retailers

Retailers perform various function in process of fulfilling the customer needs profitably. The retailers' vital functions are:

- Assortment Planning
- Purchase
- Bulk breaking
- Inventory hoarding
- Visual merchandising
- Product presentation and personal selling
- Promotion
- Pricing
- Supply chain management
- Sales
- Providing customer services

All the above functions are indicative few and many may be added to the retailer's responsibilities based on the type of products they deal, market conditions, customer expectations and the competitive scenario.

1.5 Operational decisions by Retailers

Retailers need to ensure the thrust on customer satisfaction and sustainability in the dynamic market conditions. Retailer for smooth functioning of their day-to-day business operation need to take critical decisions associated to following issues:

- Location
- Target market
- Product Assortment
- Procurement
- Store Atmosphere
- Store Activities and Services
- Price Decisions
- Credit Decisions

➤ Promotion/ Communication

Retailers focus all their strategies and efforts towards the above parameters to ensure its sustenance, survival and growth.

1.6 Accelerators for Retailers Growth

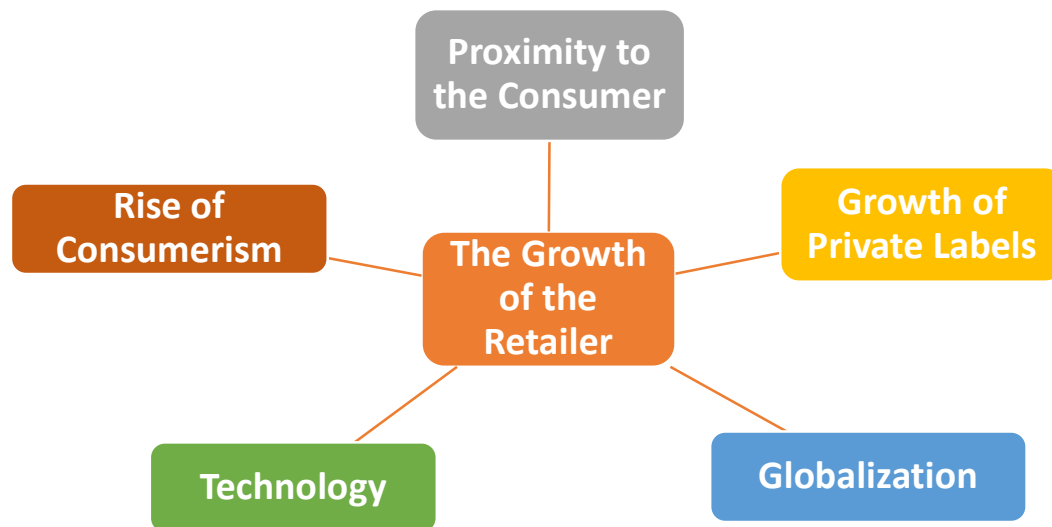


Fig.1.4: Retail Growth Accelerators

In last few decades retailer have seen the sea change in the retail business scenario and there is a huge growth potential in the present market. This is the one of the primary reasons behind big corporate giants entering into retail business. Growing consumerism, globalization, customer proximity, growth of private labels and the present generation smart technologies are the major throttles behind the retailer's growth. Many retailers started embracing the various digital technologies to upgrade their business formats and functions to become the smart retailer to cater the present generation smart and tech savvy customers.

1.7 Smart Retail Technologies (SRT)

Smart Retail Technology (SRT) is the technology used by the retailers to enhance the store performance by delivering superior customer experience and improving the customer satisfaction during their shopping journey.

Retailers are using various technologies to improve the business operations and achieve a greater capacity to deliver rich shopping experience to all the customers visiting their store. These technologies are very much useful for the store-based retailers to add digital advantage to the business format and use it for higher customer satisfaction, loyalty, and larger profitability in the era of competition. These technologies will provide a competitive edge to the store-based retailers to sustain in the present scenario where they not only compete against each other but also face tough competition from the E-tailers in the virtual business format.

Various digital technologies such as AI, IoT, AR, VR, RFID, Machine learning, Bluetooth beacons, Fusion Sensors and Computer Vision have emerged in the field of retailing and used by the retailers for various functionalities under the grand title of Smart Retail Technologies.

Few popular Smart Retail technologies and its retail application are listed in the below table:

Tab 1.2 Smart Retail Technologies (SRTs)		
Sl. No.	Type of Technology	Smart Application in Retail
1	IoT	Smart Shopping Carts, Smart Shelves, Interactive displays, Smart Kiosks, IPS for Store layout Optimization
2	AR	Smart Trial Rooms, Smart Catalogs, AR Mirrors
3	VR	Smart Atmospherics, Virtual Racks, Virtual Fitting Rooms
4	RFID	Smart Shopping Assistant: provides an interface that allows consumers to easily locate the product, confirm the detail information of it, and moreover, provide real-time recommendation(s) in accordance with interests of consumers
5	Mobile App	Digital Grocery List, Smart Check out, Scan & Go
6	AI	SIRI, Cortana, Echo for store navigation and shopping assistance
7	Beacons	Customer Shopping tracker
8	Smart Point of Sale	Personalized offers and services
9	AI & IoT	Omni-cart

Latest technologies are used in the world of retail ecosystem for various purposes to help the organization to improve its performance in delivering the better customer experience namely Smart Customer experience with help of customers, adoption of all these technologies popularly known as Smart Retail Technologies (SRTs) (Gregory, 2015; Kim et al., 2016).

Past few studies have predicted that the investments in SRT will see a subsequent growth of about 20% CAGR which will be approximately US \$36 billion by 2020 (Research and Markets, 2015). Hence, the retailers require to critically examine their internal and external marketing environment so that they can understand and classify the most suitable SRT for their business

and draw an action plan for its adoption and implementation. Presently many of the retailers are consistently working on the methods to adopt and use the SRT so that they can offer a superior quality shopping experience to their customers.

Also, customer have become more technology savvy and showing more interest in using smart technologies which is pushing the retailers further towards the SRT for the business operations and performance improvement (Immonen and Sintonen, 2015).

From last few years consistent research is going on to identify the role of SRT in the retail business, its adoption level by the retailers, as well as it impacts upon the retailer's performance and the customer shopping experience. It has developed as fully vital practice of the retailers to revolutionize consistently and by using path breaking technologies to offer better quality service and the enhanced shopping experience to fulfil growing expectations of the present generation tech savvy customers along with demand satisfaction with products and services.

Retailers need to stay relevant in order to achieve the competitive position in the market as well as fulfil the business goals about survival, growth and profitability. In this process the retailers have completely transformed from product-centric to the customer-centric orientation for the business. The entire retail ecosystem has smartened with help of digital technology.

Giant retailers all over the world have adopted these technologies with open arms and started to make optimum use of these for seamless customer experience management but the small retailers specially from the unorganized sector are yet to adopt these technologies. This study tries to pave the ways for the small and unorganized retailers, who are about 80% of the Indian retail scenario, to adopt and implement these smart retail technologies so it can be trumpet for much-needed transformation of retail ecosystem in India.

1.8 Smart Retailing

Smart retailing is the newly evolved concept where the retailers started making use of new generation digital technologies to improve the functions and operations in the retail business scenario and deliver better service and shopping experience for their customers. Various technologies such as IoT, Artificial Intelligence, Machine learning, Augmented & Virtual Reality, Sensor Fusion, Computer vision cameras, RFID, Bluetooth beacons etc. is used in

various retail business operations. These technologies are popularly known as Smart Retail Technologies.

Implementation of SRTs in the retail business needs many modifications in the organizational structure, routine operations and day to day activities performed in the retail store. For successful adoption of any such path breaking technology involve consistent efforts towards evaluation, selection, and adoption of finest technology in the organization. In this process the business organization must develop, gain, adopt and transfer knowledge form the firm to the customers and vice versa. Smart retailing also supports in forging strong partnership between customers and retailer after the in-store SRT adoption. Hence, there is a profound requirement towards developing the competence to comprehend new competitive retail ecosystem, empower the innovations and develop the action strategy through cohesive internal and external organizational skills, proficiencies, resources, and technologies (Eleonora Pantano, Harry Timmermans, 2014).

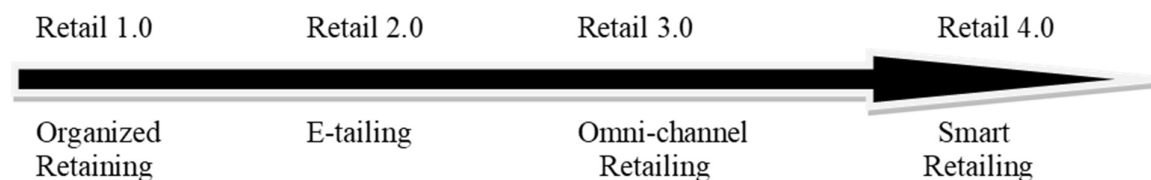


Fig1.5: Advancement of Retailing

In their study Pantano and Timmermans (2014) had introduced the idea of ‘smart retailing’, subject to making use of latest technology in retail to enhance the value of shopping experiences. Thus, in the wake of smart retailing set-up, various SRTs are deemed as contributors towards innovation and enhancements in consumers’ quality of life’ (Pantano and Timmermans, 2014, p. 103). It also explains about how the physical retailing has transformed into smart retailing with the infusion of latest technologies.

Retail technologies have evolved a lot over a period. Retailers have been using technologies like barcodes and scanners, computerized billing, swiping machines for payments etc. few years onwards and now the virtual trial rooms, self-checkouts, smart shopping carts, smart shelves for inventory, RFID tags computer vision cameras and fusion sensors to name a few have been started to be a part of retail store atmospherics to enable them to offer better shopping experience for the customers and improved store performance.

Bricks-and-mortar retailers are struggling to get back the customers ever since the online retailing has started to boom. Hence the retailers are in need of better ways to redefine their offerings as well as to create differentiating the value propositions in the era of competition. The efforts are also to improve the productivity and achieve sustainable growth in long term. (IBM, 2012; Rapp et al., 2015; Pantano and Viassone,2015)

1.9 Customer Experience Management (CEM)

Customer experience management (CEM) is the composite of various retail operations and practices that a retailer utilizes to observe, track, and categorize every contact between a customer and the organization during their entire shopping voyage. The main goal of CEM is to boost exchanges from the customer's standpoint and promote customer loyalty. Company must prepare a strategy to manage the customer experience and deliver a memorable and delightful experience to the customer through every interaction.

Gartner defines **customer experience management (CEM)** as “the practice of designing and reacting to customer interactions to meet or exceed customer expectations and, thus, increase customer satisfaction, loyalty and advocacy.” (Future of Experience: A **Gartner Theme** Insight Report, 2011)

Developing and delivering outstanding customer experience has become a crucial prerequisite for the market research because experience is supplanting eminence as the new generation competitive combat zone for marketing (Philipp Klaus and Stan Maklan, Towards a Better Measure of Customer Experience, IJMR Oct13).

Delivering value to customers has turn out to be a vital premise in the last few years. Firms are constantly contemplating upon how they can enhance the customer experience during every interaction with the customer via different touch points. Delivering a top-quality customer experience is considered as of paramount importance in today’s aggressive business sphere.

Every retailer requires to be highly attentive towards each interaction with their customer enduring the complete shopping process and hive noteworthy dedication towards refining the performance and surpass the expectations of every customer to guarantee that every customer entering the store will exit the store with utmost possible customer delight. These delighted

customers have to be converted into loyal customers as the retail stores face a geographic limitation towards customer footfall unless the retailer offers something extremely exclusive.

Personalized customer experience is very essential in retail for brand building, driving customer loyalty and frictionless growth. Top emerging technologies such as digital signage, payment wallets, contactless delivery, online, app-based orders, interactive panels and omni-channel retailing are now embraced by many medium and large retailers to enhance the customer shopping experience.

Intent-based personalization and customized experience is now the new expected value for the customers apart from the products and services offered by the retailers. Giant retailers have already contained new technologies and digital strategies to curate the customer engagement and optimized customer experience.

It has been observed that even if the retailers offer stellar products, customer will stop shopping and turn to the competitors if they face negative experience in the path-to-purchase. No retailer would like to reward its competitor with such customers. Hence, the efforts are made by the retailer to design strong business model, thoughtful strategy, technology integration, innovative format, and imaginative execution to deliver memorable customer experience.

1.10 Smart Customer Experience Management (SCEM)

The customer experience management can be further improved with the help of Smart Retail Technologies and help the retailers to achieve better results in the business. This concept of using Smart technologies can be defined as Smart Customer Experience Management.

Retail world is now shifting its emphasis from customer satisfaction to customer experience management. Customer Experience Management speaks about not just delivering good quality products and services at competitive price, but the entire shopping journey of the customer must be happy and delightful. Retailers need to redesign every touch point with the help of smart technology where the customer and the retailer interact during entire shopping process, to enable the organization capable to deliver quality experience and improve the performance effectively.

The customer experience must be augmented by using next generation SRTs. Present day retailers need to put their efforts towards enhancing customer engagement and translating the

customer shopping journey into a completely new arena. In current retail scenario offering good quality products and services is not at all sufficient for the customers. They expect to complete entire shopping journey to be delightful and value for their time and money. Modern SRTs help the retailers in providing better facilities and delivering augmented services to all the retail shoppers which will in turn improve the complete customer experience inside the retail store.

This study will has tried to emphasis on recognising the role of customer demographics in process of framing customer expectation. It will broaden the retailer's perspective towards designing overall offering related to store facilities, services, assortment, billing process, quick response to the customer complaints as well as care and concern towards the customers.

In this way the customer shopping experience can be upgraded with the help of Smart retail technologies and retailers can ensure better customer satisfaction with the help of Smart Customer Experience management.

Many technologies are now part of retail business. Chatbots are helping the customers in product search, selection and purchase. Smart mirrors in the digital trial rooms are performing as virtual shopping assistant for the fashion shopper and suggest trying clothing based on the prediction made about the gender, age, current outfit and colour preference.

AI, deep learning, computer vision and fusion sensor enabled cashier less checkout is another provision in the retail business which may enhance the shopping experience of the buyers in a smart way as people may love to spend hours together for shopping but may not very comfortable in standing in billing queue even for few minutes.

Technologies like IoT, data analytics, RFID, cloud computing, blockchain and Artificial Intelligence (AI) are very much useful for the retailers in a significant way to optimize their supply chain for seamless list-mile delivery of the products resulting into improvised customer experience. With self-learning algorithms AI had helped many global retailers in reshaping sales, CRM, logistics, supply chain, delivery, payment options and overall shopping experience for the customers. AI also helps the retailers to gain knowledge about customer's purchase patterns through analysis of their facial and hand gestures during the shopping journey. Thus, smart technologies are at the rescue for retailer and enable them to deliver seamless and memorable shopping experience throughout the purchase journey of the customers.

1.11 Statement of the Problem

Over last 2 decades Customer Experience Management (CEM) has spearheaded as new strategic instrument in the marketing management. CEM is very much beneficial in attaining as well as nurturing the customer satisfaction. CEM is very useful when it comes to face the competitive situation in the retail ecosystem as it helps the organization in securing a large number of loyal customers.

CEM has a superiority over CRM as CRM puts all its efforts for retaining the satisfied customers for longer possible duration while CEM contributes towards generating meaningful and memorable satisfaction for every customer throughout their path-to-purchase by adding certain value at every point of interaction between the customer and the organization.

Indian retail sector has witnessed an exponential growth in last few decades. This development will head toward a new uprising in the structure of triumphant organized retailing. It has been witnessed that the retail industry is contributing towards the Indian economy as well as to the wellbeing of our society by contributing employment generation for remarkable portion our population. Apart from that, the retail sector especially the store-based retailers are struggling for the survival challenged by the e-tailers with the help of convenience as their core competency.

The evidence from many past reports and studies reveals the following:

- According to 2/3rd of retail shoppers, delightful customer experience caused them to purchase impulse.
- Approximately 50% of the customers have shown readiness to a premium of about 25% towards superior customer services and facilities.
- It has been observed that poor customer experience is one of the prime reason behind 75% customer churn.
- Around 50% customer advocacy is found due to delightful customer experience rather than good quality products in the store.

- Majority of customers suffered from bad customer experience had a tendency to share their shopping experience with family and friends to caution them from shopping from same store in future.

Many studies are conducted to understand the role of technology in retail business, but a detailed study is needed to recognise the level of performance improvement, type of technology that adds value to customer during stages of path-to-purchase and extent of adoption of these technologies by the customers as well the roadblocks in process of implementation of these technologies.

Store based retailers must reposition their enterprise offerings to attain the best of customer experience. In this process latest smart technologies will be very effective. But the issue of adoption of suitable technology, its implementation and its acceptance by the customers will be a challenging task for the retailers in India. This study will try to define those challenges with further clarity and also tries to offer a solution in process of adoption and acceptance of smart technologies by the Retailers in Indian scenario.

1.12 Scope of the Smart CEM Study

This study has tried to cover various retailers mainly the corporate retailers who are investing thousands of crores and establishing large format supermarkets and hypermarkets with the expectations to serve the huge potential customer mainly from the urban segment and earn the lucrative returns on investment along with establishing a powerful Brand image in the minds of customers to make them loyal customers and create a long-term survival and growth platform.

This study had identified all those factors affecting the overall customer experience and its impact on customer loyalty as well as long term success of a retailer in the era of economic growth as well as high energy competition from local as well as foreign players also entering our Indian Market through FDI route.

This study has put its effort in to identifying the customer related factors affecting the adoption and implementation of smart retail technologies. The study also wants to define the role of technology on smart customer experience as well as retailers process of using smart customer experience management to achieve better customer satisfaction and improved profitability.

This study has tried to evaluate the role of customer engagement and technology dynamics in the process of acceptance, adoption, and implementation of the smart technology in any retail business in Indian context. The study finally tries to verify the mediating role of smart customer experience and moderating role of smart retail technologies on the customer loyalty, advocacy, and the retail profitability.

This study covered analysis to define the role of the Customer Experience Management Model designed by Wheeler & Smith and used the same in identifying the gaps between customers' expectation and the Retailer's offerings. Also, to identify the extent of usefulness of this model (By Steven Smith & J Wheeler) in designing the Retail Business Strategy in Indian context.

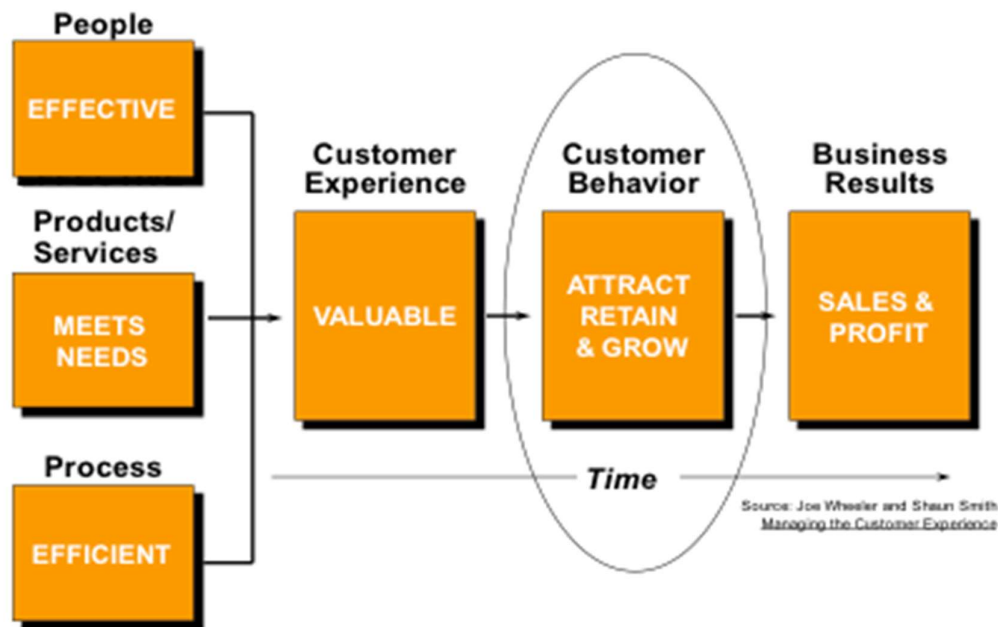


Fig.1.6: Managing Customer Experience

This study has designed a new conceptual model with the help of above model and the new smart technology considerations to identify the significance of the smart customer experience management in process of achieving larger customer loyalty, advocacy as well as greater profitability for the retailer and various hurdle faced by them in the entire process.

1.13 Definitions

Retailing: Retailing comprises the various business activities engaged in selling goods and services to end users for their personal, family or household use (Cundiff & Still).

Customer Experience: Customer experience is a “multidimensional construct focusing on a customer’s cognitive, emotional, behavioral, sensorial, and social responses to a firm’s offerings during the customer’s entire purchase journey” (Verhoef et al. 2009).

Customer Experience Management: “CEM is the practice of designing and reacting to customer interactions to meet or exceed customer expectations and, thus, increase customer satisfaction, loyalty and advocacy” (Future of Experience: A Gartner Theme Insight Report).

Smart Retailing: The emerging idea of “smart retailing” reflects a business model where retailers and customers are involved in using SRTs to recreate and re-emphasize their roles in the sharing service economy and progress into the delivery of delightful customer experiences (Belk, 2010; Pantano and Timmermans, 2014).

Smart Retail Technology: Smart retail technology (SRT) encompasses the usage of SRTs by the store-based retailers with the intention of establishing smart partnership between them and their customers with the help of seamless adoption of such new technologies to strengthen real-time interactivity with loyal customers (Gregory, 2015; Kim et al., 2016).

Smart Customer Experience: Smart customer experience is defined as newly developed customer experience which will focus upon better customer interactions, personalized offerings, real-time performance monitoring, enhanced business control and noteworthy customer experience delivered with help of latest smart technologies (Sanjit kumar Ray et al., 2016).

1.14 Significance of the Study

Retailing industry is one of the most crucial sectors of economy contributing significantly to the GDP as well as employment. Retailing also plays a vital role in improving standard of living of the society by making all the required products readily available at right place in right quantity at right time. Retailers bring the manufacturers and the consumers together.

But the challenging issue about retailing is it faces many roadblocks in the process of survival and growth. Customers’ expectations, buying habits, consumption pattern and the brand preferences change rapidly. It poses a herculean task for retailers to upgrade themselves and match with changing market environment. Technology comes to the rescue of the retailers

many a times and that the reason retail business formats have seen tremendous changes over last few decades.

Retail business formats changed from conventional stores to departmental stores, supermarket to hypermarket and e-tailers to smart retailers in recent times. To cope with the changing need of the retail ecosystem many retailers are either adopting for planning to adopt smart retail technologies to deliver memorable shopping experience to their customers. Adoption and implementation of smart retail technologies is not an easy task in the Indian context as the economic, social, technological and behavioral environment in India is much different as compared to western economies.

This study will compressively analyze the factors influencing adoption and implementation of smart retail technologies by the retailers in India. The study will also provide the inputs about suitable smart technologies based on nature business as well as acceptance level of customers. This study may be helpful for the retailers in acceptance of smart retail technologies as the initial cost of technology is very high and any previous study has not tried to through light on the return on investment for SRT. This study will try to calculate the impact of smart retail technology on customer loyalty, advocacy and profitability which in turn will help the retailers to finalize their decision about adoption and implementation of smart retail technology in their business.

Moreover, this study will contribute to the analysis and use of smart customer experience management to help the modern-day retailers to cope the competition and achieve a sustainable growth.

1.15 Organization of the Study

The present study has been consolidated into six chapters as discussed below:

Chapter 1 – Introduction

This chapter covers brief introduction about retailing, history and evolution of retailing. It also covers short note on retail classification, functions of retailing and various retail decision. The chapter provide brief idea about customer experience management and its role in achieving higher customer satisfaction. Brief information about various smart retail technologies and their role in implementation of smart customer experience management is also provided in this chapter. This chapter lastly provides definitions of keywords used in present study.

Chapter 2 – Overview of Indian Retail Sector

Indian retail industry is one of the leading and fast growing in the world. This chapter provides a brief overview of the Indian retail sector. The chapter will cover information about size, structure and format of Indian retail industry. It will also cover about the retail business leaders in India. The chapter will briefly introduce about smart retailers in India the nature technologies presently used in India. Chapter will also through light on various prospectus and challenges faced by the retailers in India. This chapter will provide brief information about characteristics of Indian customers which will be helpful for the positioning of retailers in Indian scenario.

Chapter 3 – Review of Literature

Several investigations have been performed in past about customer experience management, customer loyalty and retail profitability. In this chapter the review of those studies is done to understand the role of CEM in retail business. In this chapter a review of few studies which are focused on smart retailing, smart retail technologies and smart customer experience is also done to identify the role of smart customer experience management in the retail business context to understand the constituents and consequences of implementation of the smart retail technology on customer experience management, customer loyalty, advocacy as well as overall retail profitability.

Chapter 4 – Research Methodology

This chapter mainly cover the information about various methods used for collection of the data and statistical tools used for the analysis of collected data. This chapter also covers brief information about the target population and sampling method used in finalization of sampling method, sample size, and sample format. This chapter also has details about various research objectives, research questions and hypothesis under the study. Details about the theoretical background of the study as well as conceptual model of the study is described in this chapter.

Chapter 5 – Data analysis

This chapter has covered the data analysis using statistical tools such as ANOVA, Chi-Square Tests, Regression Analysis, Multivariate Analysis and Structural Equation Model. Statistical

packages like SPSS 20.0 and AMOS is used for the analysis of the data under this study. Validity and reliability of the sample as well as questionnaire is also tested using suitable tools.

Chapter 6 – Findings, Conclusion and Suggestions

This chapter summarizes all the results of analysis in brief. Also, the theoretical as well as managerial implications of the study are covered. Various suggestions based on the findings are briefed. Lastly, along with the results discussion, limitations of the present study, scope for the future research and the conclusion of the research is narrated.

2.0 Retail Sector in India – an Overview

Indian retail industry has emerged as one of the dynamic and one of the fastest-growing retail industries in the world. Indian retail market size is expected to be worth US\$ 1.5 trillion by the end of 2025. This estimate may show slight variation due to present pandemic situation. It has been witnessed that many global retailers are entering into Indian markets due to its large size as well as growth potential.

India is one of the youngest nations as per population composition is concerned. It is a well-known fact that younger generation is more inclined towards shopping. Also, the strong GDP growth rate has fueled the retail growth as the disposable income of the Indian population is remarkably increased in last few decades.

Healthy economic growth, growing disposable income, enhanced culture double income, changing demographic profiles and aggravated taste and preferences of Indian consumers have enthralled with robust growth for the Retail ecosystem in India. Retail growth is also fueled by the increasing footprint of Modern trade organized retailers and E-commerce shopping portals. Customer's tech savvy and quality conscious shopping behavior is another landmark reason behind the retail growth.

Government has also energized the retail growth through various reforms like FDI, GST, ease of doing business norms etc. in recent few years. Growing infrastructure is another prospect for retailers making quality retail space readily available at the prime locations. Strat-up economy and gig economy has further sparked the interest of many corporates in the retail sector.

India with population of over 1.3 billion, more than 50% below 25 years of age and more than 65% below 35 years of age and the dependency rate is just 0.4, it makes Indian market as one of the most sought-after markets for the business organizations all over the world. It is the main reason behind world's largest retailers are like Walmart, Amazon, Metro, Tesco etc. are already in Indian market and others are waiting to enter.

In the similar way these factors have also supported a lot to breed large number of homegrown retail business leaders like Future Retail, Reliance Retail, Avenue Supermarkets, Aditya Birla Retail, Tata Star Bazaar, RPG's Spencer's and many more to name here.

Indian retail industry has a great potential to grow and contribute to the social development and nation building via contribution to GDP as well as employment generation.

2.1 Snapshots of Indian Retail Industry

The Indian retail market size is estimated to be US\$ 1.1trillion as per the revised calculations due to Covid pandemic from that of the earlier estimated US\$ 1.3 trillion by various studies.

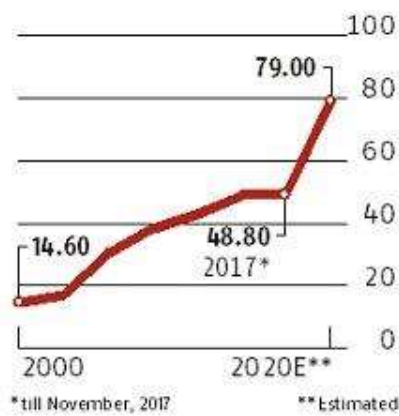


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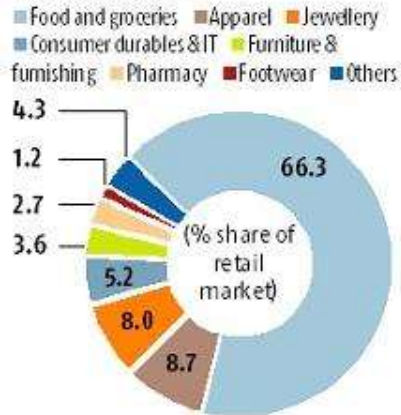
- India is the world's 5th largest retail ecosystem.
- Retail sector makes significant contribution in the form of about **10% to the GDP** and around **8%** to the national employment.
- **Size of India's retail Industry**
 - Retail industry in India is observed an exponential growth in last few years and reached from an estimated **US\$ 672 billion** in 2017 to **US\$ 1,300 billion** in 2021F.

- Online retailing is also seen tremendous surge with a profound CAGR of **31%** to reach **US\$ 46.2 billion in 2021**. It is expected to surge to **US\$ 110.40 billion by 2025** and may reach around **US\$ 350 billion by the end of year 2030**.
- Foreign direct investment (FDI) equity inflows totaling **US\$ 3.61 billion** during April 2000–June 2021.
- India's retail sector investments doubled to reach **US\$ 843 million** in 2020.
- It is estimated that by the retail market share of various formats has seen the change and it is now of following pattern by the year end 2021 composite of Conventional Retailing 75%, Organized sector comprising 18% and the online retailing holds 7% of the market share.
- All the organized retailers are spread across only 53 –odd cities out of 8000 cities and towns across the country
- Big box retail giants such as Walmart, Carrefour, Tesco, Target, Metro, Coop are few of the 350 Global Retail Companies with Annual turnovers of over US\$1 Billion shown their interest to operate their stores in India.

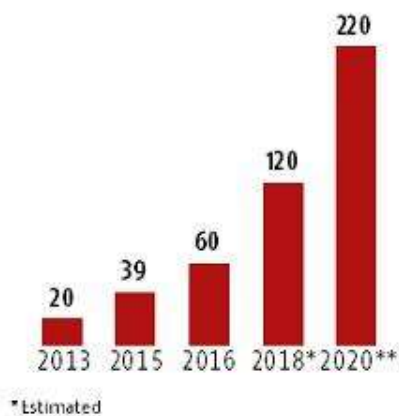
RETAIL MARKET COULD TOUCH ₹80 TRILLION BY 2020
(Figures in ₹ trillion)



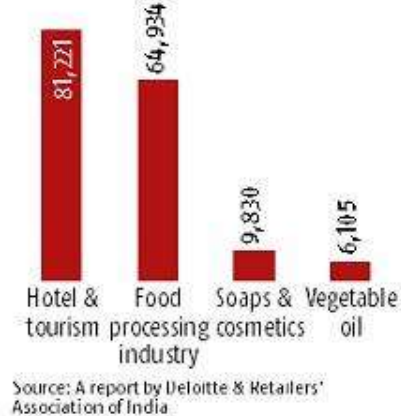
FOOD AND GROCERIES TO FORM TWO-THIRDS OF RETAIL IN INDIA IN 2020



ONLINE SHOPPERS TO GROW AT 41% TILL 2020
Number of online shoppers (In million)



FDI IN CONSUMER-FACING SECTORS IS GROWING SECTOR
FDI inflow in 2017-18 (In ₹ million)



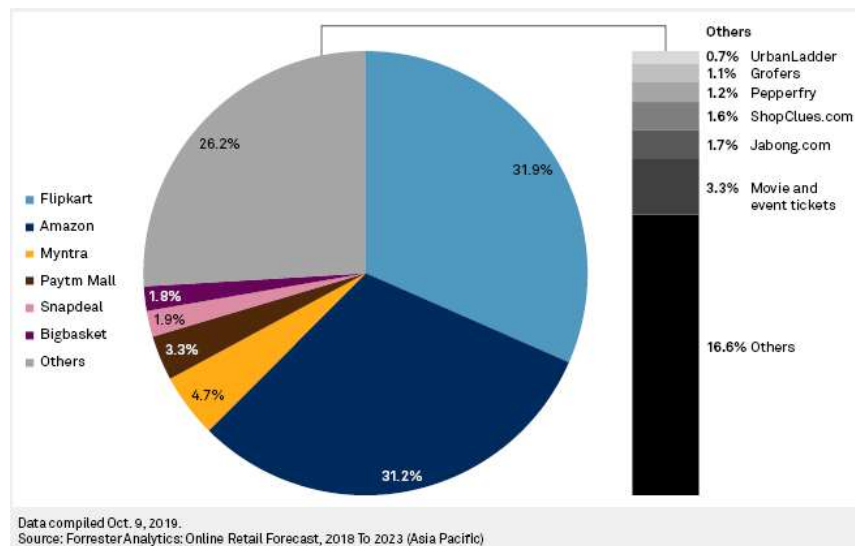
- A study report by Deloitte & Retailers Association of India

Great scope for the modern trade and the organized retailer to grow from the present 9% to 18% by 2021. Similar scope for the online retailers to grow and capture the market share of 7% from the present 3% by the year 2021.



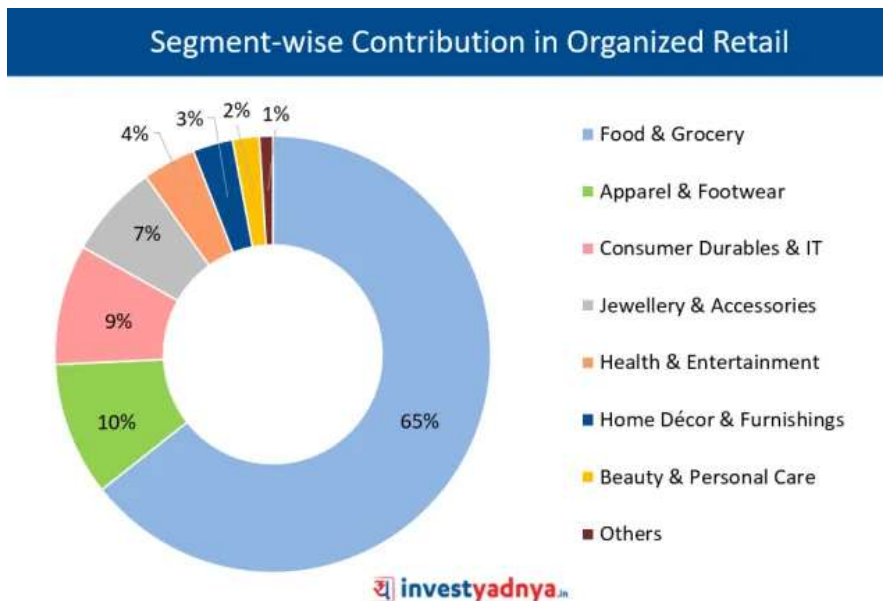
- www.ibef.com

- Over 15 million retail stores operate in India out of which only 4% are larger than 500 sq ft (46 m2) in size.
- 40 million people (3.3% of population) earn their livelihood from the retail stores all over the country.
- Around 220 million people shopping online in 2020 as per the study done by Deloitte and Retailers association of India.



-Forrester analytics: Online Retail Forecast,2018-2023(Asia Pacific)

- According to a study by Nielsen over 1 million wholesalers are operation in India to cater the needs of retail industry.
- India has seen an exponential growth in the modern trade as number of supermarkets and hypermarkets have grown from meager 500 in 2006 to over 8500 in 2016 and it grown faster to reach around 18200 in the year 2020.



- *Investyandya.in*

- Presently **Reliance Retail** is India's largest organized retailer with the widespread presence of supermarkets, specialty stores, super marts chain and online presence in the form of Jio Mart. Reliance tops the list of modern trade retailers in the India in terms of the revenues as well as the customer footprints. **Reliance Retail** operates around 11300 stores covering the area of around 26 million square feet for the chain of specialty stores, convenience stores, wholesale cash-and-carry and supermarkets.
- Tatas are operating their retail arm as Star Bazaar and Star Hyper in collaboration with Tesco Enterprise, UK along with their existing retail chain like Westside, Croma etc.
- Amazon has now in its omni-channel retail business in India after acquiring More Megastores business from Aditya Birla Industries.
- Walmart is operating 27 wholesale Cash-&-Carry store and in process of establishing its omni-channel retail business after it acquired a major share in Indian E-commerce giant Flipkart.

2.2 Indian Retail Scenario compared to World retail Industry

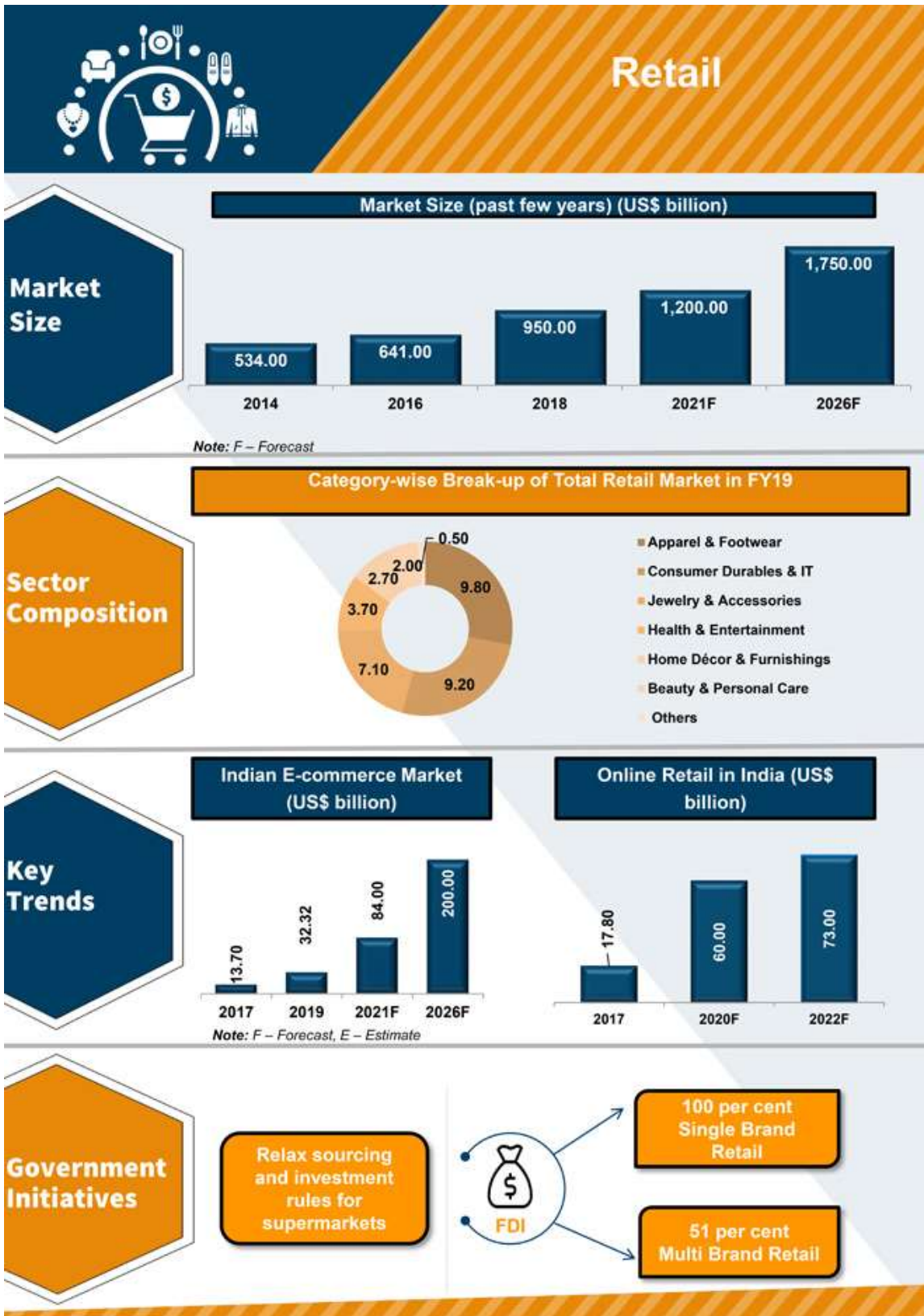
Particulars	World	India
Market Size (Expected by 2020)	US \$ 26.29 Trillion US \$ 27.73 Trillion	US \$ 957 Billion US \$ 1.1 Trillion
CAGR	5.3%	13%
GDP Contribution	31%	10%
No. of Stores		12.8 Million
No. of Persons Employed in Retail		40 Million
ROI	9%	18%
Share of Organized Retail	45%	12%
Share of On-Line Retail	31%	5%
No. of Online Retailers	7.1 Million	28000

- www.ibef.com, *Gartner Study Report 2020*.

Indian retail industry is one of the fastest growing in the world. India ranked 73 in the United Nations Conference on Trade and Development's Business-to-Consumer(B2C) E-commerce Index 2019. India is the world's fifth largest global destination in the retail space and ranked 63 in World Bank's Doing Business 2019. In FDI Confidence Index, India ranked 16 (after US, Canada, Germany, United Kingdom, China, Japan, France, Australia, Switzerland, and Italy).

Indian retail industry is so diversified that it has seen giant organized retailers and the small unorganized retailers are cohabiting and surviving parallelly. According to the study conducted by CRISIL Indian retail sector is the one of the most fragmented retail markets in the world with only 12% of the retail business is in the organized sector. It is a clear indication towards huge potential for the modern trade to grow in India. Presently in India only 300 new shopping malls, approximately 1500 supermarkets and 2300 departmental stores are operated across all the cities and towns.

The big corporate retailers are not only focusing upon selected metros in India, but also are considering the 2nd graded upcoming cities like Pune, Gurgaon, Chandigarh, Ahmedabad, Baroda, Coimbatore, Cochin, Ludhiana, Trivandrum, Shimla, and others.



2.3 Factors Influencing the Growth of Retail in India

2.3.1 Prospects

- The changing Indian consumers' psyche. Indian customers are becoming more quality conscious, affluent towards global brands and ready to pay premium for the better-quality service and convenience.
- Greater per capita income. With substantial GDP growth rate, growing working population, supportive economic conditions have enabled the individuals to spend more as the per capita income has seen a surge.
- Active role of women in the household earning caused higher disposable income for the middle-class families. Women started working to double the income source for each family and scope for better consumption.
- Growing high- and middle-income population. The economic growth rate coupled with technology expansion resulted into boom in startup as well as gig economy. This has created good wealth for the high- and middle-income population of the country.
- Affordability growth, falling interest rates, easier consumer credit facilities from banking and non-banking financial institutions have enabled customer to buy more product than they can afford present day with the help of EMI concept of payment. This has resulted into larger sales and revenue for the retailers and the manufacturing sector specially in consumer durables, furniture, electronics devices and home appliances sector.
- Greater assortment and quality products at all price levels. With globalization, many multinational brands are now available in Indian markets. With the initiatives like Make-in-India, ease of doing business and simplified FDI norms had resulted into large variety of international brands produced and sold in Indian market in hassle-free manner.
- Rise of young luxury consumers. Indian being a youngest nation in the world, has more than 50% population with less than 25 years age and about 65% population with less than 35 years of age. This population with greater employment avenues, access to world class technology and attitude towards accepting risk has motivated them to take new ventures and startups. This has resulted into higher income at a younger age without much family responsibilities have created an affiliation towards luxury lifestyle.
- Urban consumers getting exposed to international lifestyles, inclined to acquiring asset. With the constant exposure to Internet, Media and social media, the urban population

has under strong influence of western lifestyle. Also, the IT boom has given a chance to many youngsters to work or visit in many western countries. This resulted into exposure towards the international lifestyle and interest in the international brands.

- Shopping has now become a family event as need based shopping has taken a back step and periodically going for shopping has become a part of routine lifestyle. With the entry of Modern trade, Organized Retailers, Malls and Shopping Centers in the urban areas, Retail has now transformed into Retailtainment. Retailtainment is nothing but the shopping upgraded with entertainment as part of it due to eateries, multiplexes, food courts, gaming zones now as an integral part of the Malls and Hypermarkets. Hence, many families started visiting these malls and hypermarkets for holiday or recreation trip making it frequent shopping trips rather than need-based shopping.
- Changing mindset of consumers- increasing tendency to spend. With strong influence of the western materialistic lifestyle, attitude towards savings has completely changed and households started spending more on comfort and luxury. Also, with working women household disposable income has doubled in last few years giving more spending power to the households.
- Greater levels of education. Growth of higher education, larger literacy, increased number of higher education institutions and inclination towards professional and technical education has resulted into increased qualified and tech savvy population in the country.
- Rising affluence among middle class India society. India has a large portion of its population as middleclass population. These people are now focused on increasing the income as well as spending money for its best value. This population is more inclined towards comparisons among multiple retailers, e-commerce websites and all possible sources so that they can get best available brands at most competitive price. Their shopping style has completely changed due to access towards technology as well as internet. As this population is large in portion, all the retailers need to focus their business strategies based on the buying patterns of this population.
- Increasing number of dual income nuclear families. The female education levels as well as skill levels have been improved to a large extent. Mindset of the society also changed, and the female population started coming out of their houses and started to work without any hesitation leading to dual income for many of the families all over the country.

- Emergence of rural economy. Major population of our country lives in the rural India. Today the small towns and villages are connected with the developed world through information highway. Infrastructure growth, rise of Argo based industries, technological connectivity, favorable policies such as SEZ creation etc. has given a booster dose to the rural economy and resulted into higher disposable income for the rural population.
- Government policies in the trends. Various government policy initiative such as: Simplifying the rules for business establishments under the policy of Ease of Doing Business, Eased norms towards FDI in multiband and single brand retail, GST – one nation one tax policy, encouragement to digital payments, rise of e-wallets, decrease in taxation rates, Make in India, Easy credit viz Mudra Loans for small traders, banking reforms etc. are resulting into strong and favorable environment for the retailers from all over the world to start their business in India.
- Rapid economic growth calling global retailers. Large population with remarkable disposable income, substantial GDP & Economic growth rate, simplified norms for business, tax reforms, growth of digital economy has motivated global players to establish their retail business in India.
- Increasing corporate interest in retailing. Similar to global retailers, even many Indian corporates have shown great interest in retail business as it has great growth potential and remarkable potential for RoI. This is clearly visible with the entry of large business houses like TATA's, RIL, Birla's, RPG Group, Wadia's etc. into retail sector.

2.3.2 Challenges

- Higher taxes. Rates of various taxes such as GST, Income Tax, Customs Duty etc. are pretty higher compared to many developing nations. This resulted into tax evasion, gray marketing, and unbilled sales in a large proportion.
- Erroneous policy decisions
 - The tax structure in India favors small retail business
- Multiple laws. The retail business may need to adapt with various legal compliances such as Shops and Establishments Act, GST Act, FSSAI, Restricted Trade Policies Act, Labour laws and many more based on the type of retail business. This may be a demotivating factor for the new organizations to start and operate the retail business in India.

- Unnecessary or illegal imports. After the Globalization many neighboring countries like China has started dumping Indian markets with cheaper and low-quality products. It had resulted into adverse impact on the Indian manufacturing as well as retail sector.
- Poor infrastructure and logistics. Availability of readymade commercial space is still a distant dream for the retailers except in metro cities and few Tire I cities in the country. This leads the retailers to invest more in infrastructure adding burden to the initial investment as well as RoI. Similarly, poor roads and connectivity creates bigger problem for the logistics and supply chain operations of the retailer. This is discouraging the organized retailers and global players from expanding their business in Tire II, Tire III cities and small towns.
- High cost of technology and equipment. For many modern technologies Indian corporates are dependent on their foreign counterparts. This makes the technology either costlier or creates dependency upon them forcing to join hands with them and share the revenues and profits with them even though it is earned from the Indian markets and from our own society.
- 96% outlets with below 500SqFt space. According to a Study by Gartner as well as IBEF, almost 96% of retail outlets in India are of less than 500Sft in size. This imposes as big restriction on expansion, technology adoption, service improvement and growth prospectus. Only stable earnings and sustainable survival are the objectives of such retailers.
- High cost of real estate. India being highly populated country, cost of land and building is pretty high leading to either non-feasibility or costly affair for the retailers to start their business in many potential trading locations in the country.
- Dissimilarity in consumer groups. Our society is multifaceted, diversified and multicultural. This results into diverse consumption patterns and buying behavior of the customers and makes it very difficult for the retailers to predict and plan their offering for the customers. Also, the price-quality equation used by customers pose greater challenge for the retailers to design their business strategy in such a way to offer best quality products at least possible price.
- Restrictions in Foreign Direct Investment. As per the latest norms, FDI in multi brand retail is restricted up to 51%. Similarly, the foreign retailer needs to offer 50% jobs to rural youth, procure 30% merchandise from local sources and 50% of investment must be spent on creation of back end and logistics infrastructure

as mandatory compliance. Such policies may be considered as hindrance for some of the global retailers in Indian market.

- Professional and focused education in the Retailing specialization is still at very nascent stage in India resulting into:
 - Shortage of retail study options
 - Shortage of trained manpower
 - Low retail management skill
- Unsolicited public behavior. Inventory shrinkage due to improper material handling, employee theft as well as due to shoplifting by the customers is remarkably high in India as compared to global figures. This inventory shrinkage leads to higher pricing, malpractices, unfair trade practices and reduced profitability for the retailers. It poses loss to both customers as well as retailers.

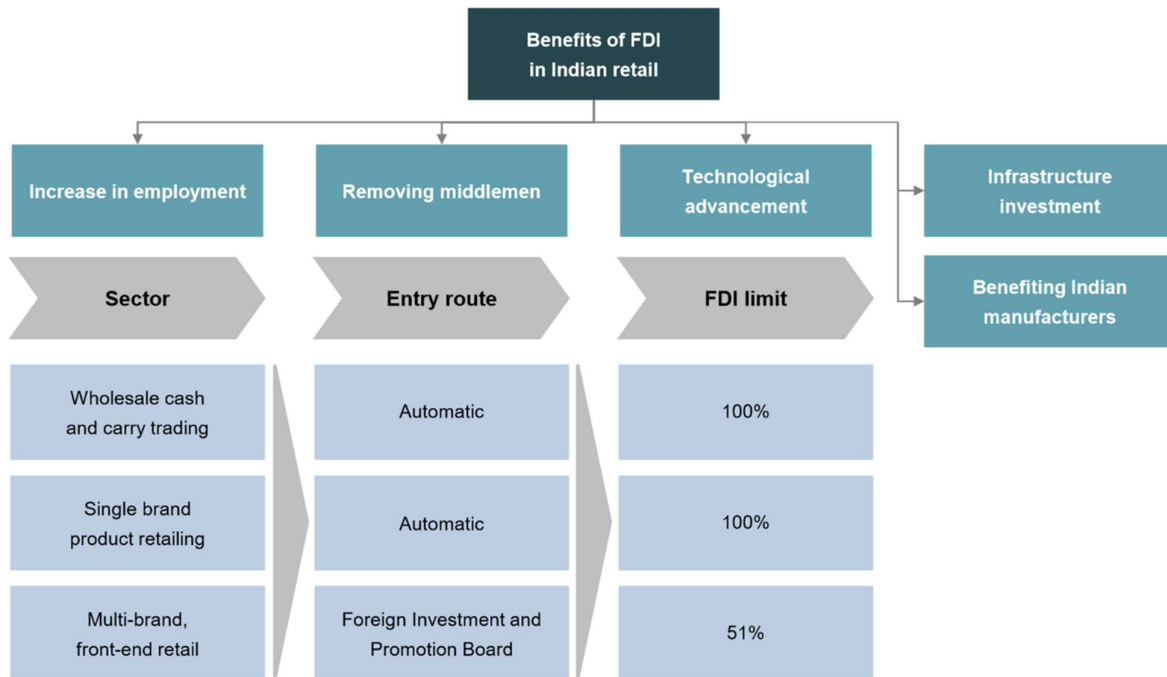
2.4 Economic Environment for Retail in India

- ✓ Increase in Working Population
- ✓ Growth in GDP & Per Capita Income
- ✓ Emergence of Rural Economy
- ✓ Growing Consumerism
- ✓ Corporate & Foreign Retailers
- ✓ Positive Economic Reforms – GST, FDI, Ease of Doing Business Etc.
- ✓ Expansion of Technology Adoption
- ✓ Development of Infrastructure and Logistic Facilities
- ✓ Strengthen Competition Commission of India

2.5 Retail Reforms initiated by Government

- FDI – 51% In Multi-brand Retail And 100% In Single Brand Retail
- 50% of FDI must be spent on creation of back-end infrastructure like logistic network, cold storages etc.
- 30% of products must be purchased from Indian SMSE sector.
- 50% of jobs in retail outlet to be reserved for rural youth.
- To start a multi-brand retail store a minimum investment of US\$100 million has become mandatory.
- Ease of doing business – No. of Licenses required came down to 2 – 7 from 25 – 45.

- GST – simplification taxation system.
- Removes middlemen and provides better price to farmers.
- Consortium of Indian Farmers Associations (CIFA) - System to allow the farmers to sell their produce directly to large retailers.



- www.ibef.com

2.6 Smart Retail Technologies in Indian Retail Stores

Many retailers in India have started adopting the latest smart technologies and transform the store into Smart Retail store to ensure greater shopping experience for the customers and also to improve the profitability of the business with the help of these smart retail technologies. The retailers who adopted smart technologies are both Indian Retailers as well as international stores operating in India.

- Future group introduced Big Bazaar GenNext stores in 2015 at Malad, Mumbai which has smart shelves, self-checkout, Smart trial rooms etc. to provide the customers with great shopping experience and also help them to regenerate their purchase journey. As on 2020 Future group is operating 14 such stores in 4 metro cities including Mumbai, Delhi, Noida and Gurgaon. Many more such stores are going start in short time according to the expansion plan of the future Group.

- Shopper Stop, the leading fashion retailer of India has installed Magic Mirrors, the AR/VR enabled Smart Trial Rooms in its Malad, Mumbai store in November 2015. The plan was to introduce in other stores and in other cities was kept on hold by the company as the store is facing certain operation issues and the RoI for such technology is not determined exactly by the company. Shopper's Stop also partnered with ToneTag to offer sound based contactless payments at the stores.
- India's 1st autonomous store very similar to AmazonGo was started by Nayasale Retail Pvt Ltd in Kochi, Kerala in 2018 in the name of Watasale Store. This store is a cashier-less making the customer to use self-checkout without any billing queue and any scanning giving its customers the feel of empowerment and extra convenience. The store uses Deep Learning Algorithms, Computer Vision cameras, Sensor Fusion and AI for the implementation of this cashier less billing. In 2019 company started its 2nd store in Ernakulum and planning to start few more stores in future.
- Swedish Furniture Giant IKEA started its 1st Store in India near Hitech City, Hyderabad. The store is spread across 13 acres and over 400000 Sft of area. With 7500 products to offer IKEA uses VR App to deliver virtual reality experience to its customer for easy selection of the products. Digital Interactive displays will help the customers to customize the furniture as per their needs and order accordingly. Self-checkouts at the store exit enables the customers for faster shopping without standing in billing queues.
- SPAR Hypermarkets have introduced a range of digital technologies in 2018 to enhance the customer shopping experience and deliver seamless satisfaction for their shoppers. SPAR introduced self-checkouts and assisted checkouts, 'Design Your Home 3D Studio' which allows customers to mix and match home décor products virtually, product and location finder, Instore Mobile App to track the availability of stocks, promotion, offers and price change as well as a digital kiosk for easy product selection and purchase.
- In 2019, TBZ Ltd. One of the leading jewelry retailers in India has introduced Smart Mirrors for virtual trials of the jewelry, e-catalog and Mobile POS for self-checkout in their Mumbai store to provide better shopping experience for its customers. They also introduced a new service called Try at Home with help of virtual trial facility with help of AI and VR.
- Food retailer Burger King has introduced Self-checkout kiosk, beacons, mPOS, and Digital screens to enhance in-store shopping experience in few locations in Mumbai

and Delhi. Burger King also started using IoT, AI and robotics for warehouse optimized inventory management to reduce its cost as well as to improve the profitability of each store.

- In 2018 Arvind Lifestyle started using Big Data Analytics and AI enabled solutions for inventory management and IoT enabled POS and Omni-channel retail for smooth shopping of the customers
- Raymond's has opened its 1st Smart store in Bangalore under the name of Raymond Ready to Wear. This store has AR/VR enabled smart mirrors and AI enabled contactless measurement system to design and deliver personalized suits to its customers. Raymond's is planning to introduce these magic mirrors in 100 stores across India in next few years.
- SunnyBee Market, a chain of food stores in Chennai, operates 6 stores in Chennai having self-checkout option for payment making customer to shop without billing queues. SunnyBee deals with around 5000 SKUs from staples, dairy, fruits, vegetables and exotic food items.
- Bestseller's Vera Moda Stores in Goa have implemented Unicommerce, a unique smart solution for better inventory management and ensure unified visibility of all stocks across their 300+ stores, website and mobile app.
- Global sportswear brand PUMA launched its 1st futuristic store in 2017 at Indiranagar, Bangalore. The 7000sft store spread over three floors has 1st of its kind F1 Simulator to give the customers virtual F1 racing experience. PUMA x YOU allow the customers to customize and personalize the PUMA footwear, apparels and accessories. Interactive displays will allow the customers to virtually scan the entire range of PUMA products and not limit their selection of style and colour of their choice.
- In 2019, Myntra launched its 1st lifestyle store 'Roadster Go' in Bangaluru to deliver hi-tech fashion omni-channel experience. This RFID and digital screen enabled store allows the customer to pick up favourite merchandise, discover real time online prices and do a self-checkout within 30 seconds without any assistance making their shopping smarter, faster and seamless.
- Tata Group's Tanishq has introduced 'Try & Buy' a Virtual trial facility with help of AR Screens at their Delhi and Bangaluru Airport Stores. This MirrAR will allow the customer to try range of jewellery items without actually wearing them and make their selection decision. It gives wider choice to customer before finalizing products and finishing their shopping.

- Mumbai-based 'Drinx Exchange' has introduced electronic tech tables for the diners who can watch live scores, track their order, pay the bill or enjoy music while having their drinks. These screens also give updates about various live offers available.
- Mumbai based Beer Café introduced mobile app URBAR, which allows the customers to track the stocks and reserve the bottles of their choice, pre-pay and stock in their virtual bar before actually visiting the place to avoid the disappointment and also check the price across the country as Beer Café is operating in 12 cities across India.
- Lesnkart uses AR glasses enabled virtual try option for the customers to help them make their selection of frames, lenses and the spectacles. They also use LOCUS technology for efficient delivery of products ordered by the customers.
- Advanced technologies like geo-fencing, digital beacon technology, Automatic Number Plate Recognition (ANPR), etc. are used by the DLF Cyber Hub mall in Delhi to improve customer engagement and to notify them about latest promotional activities and shopping deals offered in the mall.
- Bangluru based Van Heusen Style Studio uses VR based smart mirrors to cut the trial time for the customers. The store has a Fit Suite, which suggests appropriate fits and sizes depending on a customer's body type. The advanced digital trial room with AI based lighting and displays will allow the customer to get a trial experience in customized time, atmosphere and lighting.
- Supermarket chain Hypercity's self-checkout store in Hyderabad, allows consumer to avoid the billing queues. This scan and go technology is the new revolution in automated billing and enhanced shopping experience for the retail shoppers. These 2 stores are presently operating in Infosys Campus of Hyderabad. These cashiers less stores are using Purple 1Pay Mobile App for scanning Barcodes on the products and payment via credit, debit cards, net banking or mobile wallet.
- Decathlon operates 12 stores in NCR and 70 stores across India. It has recently introduced in all its stores self-checkout option via Scan & Go facility. It enables the shoppers to pay using their smart phones which will automatically disable the RFID security tag and allow the customer to go without standing for the billing queue. Apart from this Decathlon also introduced smart retail technologies like Digital Screens and Augmented Reality Golf in its stores to enrich customer experience.
- With various technological advancements at Wills LifeStyle Stores such as Self-checkout kiosk, Mobile POS, TryOn virtual Fitting Room Assistance etc has largely augmented customer experience. Also, the Omni-channel initiative allows the customers

to use the Click-&-Collect feature adding more convenience and comfort to their shopping.

- Metro Shoes has delighted to its customers by installing ETP POS System across all its stores giving access to the customers to view real time inventory as well as faster checkouts.
- The luxury fashion retailer ZARA has introduced the Scan-&-Go self-checkout facility in its stores apart from Smart Mirrors for the speedy and contactless trials of fashion garments and accessories. These technologies are helping the customers by offering larger choices and better selection along with faster shopping.
- Thailand based LOTS Wholesale Cash and Carry started 2 stores in Delhi and Noida in 2018. This store uses geo-tagging its customers for efficient delivery and e-mark all its products and electronically display the origin of product, the price and expiry date on shelves using digital tech-initiative.
- The travel booking service retailer SOTC is using Microsoft Dynamic CRM to offer more personalized holiday solution packages for its customers.
- Fashion designer SatyaPaul has transformed its retail stores into Omni-channel retail business with the help of Microsoft Dynamics Solutions.
- Intex Technologies operates 135 Smart World Stores across India since their inception in April 2015. These stores are technologically advanced to enhance customer shopping experience.
- 612 League Stores has opened its 1st exclusive store in Bangaluru in 2016. The store has various smart technologies like Smart Mirrors, Self-Checkouts and digital interactive screens to enrich the customers with better shopping experience. Presently the company operates 3 stores in India.
- Tata Group's Titan Eye Plus which operates more than 350 stores all over India has introduced Lens Tablets in its 8 stores in Bangalore on pilot basis which enables the customers for virtual trials of lenses and help in selection. The company is planning to expand this facility in 70 other stores in next one year.
- PC Jewellers adopted AR technology with help of MirrAR App on Ipad in store working as smart mirrors, which allows customers to virtually try on jewellery. From 2018 to till date this technology is rolled out all its 95 showrooms across 75 cities all over India. This technology is very much useful for the customers as they can try more designs and models of jewellery before making final selection. For store it is very useful

because it helps in getting higher customer satisfaction and reduces the chance of damage for the delicate artistic jewellery.

- Bangalore based Airflash Retail Pvt Ltd operates its few stores specially called as experience store where many smart retail technologies like AI, IoT, AR/VR are used to give hallmark shopping experience to their customers.

Many more retailer across India are trying their hands on implementing the Smart retail Technologies in their store and getting mixed responses from the business as well as customers.

2.7 The Ground reality of smart retail technology in India

The smart retail technologies in India are right now in the stage of infancy. The implementation is done by very few stores and the expansion has not seen in the many organized retailers stores except few selected cities.

The issues associated with these technologies are adoption problems by the customers and the acceptance issues associated with retailers. The implementation of smart technology has seen various issues such as initial investment, irregular power supply, employee skill level and training, customer awareness level and acceptance. Data privacy and secrecy is another major roadblock in the implementation of Smart Retail technologies in India.

Presently the retailers are mainly struggling for educating the buyers as well as evaluating the exact role of these technologies on the business profitability and to define the return on investment made towards adoption and implementation of these Smart Retail Technologies and to define the exact impact of these technologies on overall customer shopping experience as a moment-of-truth.

2.8 Smart technologies shaping the Future of Retail in India

The Indian retail industry has achieved recognition to be one of the fastest growing industries in the world. Technology is playing an important role in this process. The large young and tech savvy population is another supportive component in the process of growing retail ecosystem. Presently the retail world in India is in its transition state where it is transforming itself from conventional retail to e-tailing to omnichannel to smart retailing.

Retail industry has shifted its focus from product-centric to customer-centric and now working day-in and day-out for achieving greater customer satisfaction and loyalty via improvised customer experience during the customers' path to purchase.

For the present generation retailers, it has become mandatory to adopt the innovations and improve the performance consistently due to sharply growing competition. Retailers are in crucial need of path breaking technologies to improve their performance and deliver memorable shopping experience to all its customers during their each and every interaction with company at every touch point. Similarly, due to access to latest technology and the information explosion, today's customers have become more demanding and aware about the market offering from all possible alternative sources of need fulfilment.

Today the retailers are not only competing with other retailers but also with the disruptive technological innovations which are having direct or indirect impact on their business as well as profit earning potential.

Today, the entire retail world has emerged into the smart technologies. There are wide variety of SRTs for the retailers to try out and offer a new retail shopping experience. New generation retailers can use SRTs like smart displays, in-store services, scan-&go, RFID tags, beacons, Smart carts, Smart mirrors, smart trial rooms, smart shelves, logistics automation etc.

The giant corporate retailers are adopting these technologies with open arms, but the small retailers mostly from the unorganized sector have yet to give a thought towards adoption of these technologies. If the entire unorganized sector, which is around 80 percent of the industry, adopts these technologies it will be one of the greatest triumphs for the Indian economy. It will give much needed boost to the GDP and economic growth rate and take the market towards new era of prosperity.

This study will try to provide much needed insights for the easy implementation of smart retail technologies by the retailer in Indian scenario by defining the roadblocks as well as by clearly identifying the benefits of the technology adoption in the monetary as well as non-monetary manner. The Smart Customer Experience Management will become the hallmark strategic differentiator for the retailers in India. The 21st century will see a wave of 'Experiential Retail' as anew phrase of success for the retail ecosystem. Technologies

like AI, AR/VR, IoT, Machine Learning, RFID, Sensor Fusion, Bluetooth Beacons, Deep Learning, Big Data, Cloud etc. will be at the heart of the retail transformation.

2.9 Trend that will transform the Retail Scenario in 2021

The retail ecosystem has seen transformation on many occasions and traveled a long remarkable journey to reach to the present position of Retail 4.0. Few crucial trends which will further transform the retail sector and make it future ready will be:

- ***Focusing on in-store experiences*** – Retail shoppers are not only concerned about good quality products and services but also overall shopping journey to be satisfied. Hence retailers need focus on creating memorable shopping experience throughout customer path to purchase at every touch point.
- ***More stores will embrace immersive technologies*** – Immersive technologies like AR/VR, IoT, AI etc. are becoming part of lifestyle of the digital generation tech savvy customers. Hence adoption and use of such technologies for enhancing shopping experience of the customers will be a crucial need of the day.
- ***Going multi-channel*** – customers are becoming more quality focused, brand affluent as well as price conscious at the same time. Convenience and importance of touch-&-feel is expected by them at the same time. Access to technology and Internet allows the customers to check and compare the product/price related information before every purchase. This makes extremely important to the retailer to offer all these aspects at the same time by going multi-channel or omni-channel.
- ***Social commerce will be a gamechanger*** – After the revolution of E-commerce and M-commerce, not it is the time for next wave of S-commerce i.e. Social media marketing, which has huge impact upon product selection, price reference, selection of retailer as well as post purchase behavior of many customers in the present generation. Hence the retailers need to adapt the social media as a game changer strategy.
- ***Expansion of data collection and analytics*** – dynamic retail business scenario, changing customer buying behavior, consumption patterns, competitive situation, and economic conditions makes it compulsory for the retailer to collect all possible data about the business and analyze it with help of data analytics tools to gain insights about the challenging business world and modify the business strategy to respond it.

3.0 Literature Review

3.1 Customer Experience Management

The new phenomena called digitalization and smart technologies have largely influencing the retail world and the traditional brick-and-mortar stores are under disruptive pressure to transform themselves through their strategies, operations and offerings which are not only influencing the retailer's performance but the consumers behavior as well (Hänninen, et. al., 2018; Hagberg, et.al. 2017).

Customer experience is the overall impression carried by the customers after shopping and the opinion framed about the company that how they will treat their customers (Kavitha and Haritha 2018).

The retail shoppers are prone to visit and shop from the same store again and again and will become store loyal customer if the retailer can deliver the pleasant, positive and exciting shopping experience (Brakus, et al. 2009).

Customer experience practically acts as strategic differentiator and the helps the organization to achieve as edge over its competitors (Hong 2016).

Through systematic customer experience management, the companies can design their all-inclusive offering for their customers, ensure the memorable shopping experience and delightful value for all the shoppers (Clemes et al., 2019; Teixeira, 2012).

Customer experience management (CEM) has a significant role to play in the retail and the services marketing as it provides inputs for the understanding about customer responses towards various marketing stimuli as well as customer shopping process effected by the retail offerings (Larissa Becker, et. al.,2020).

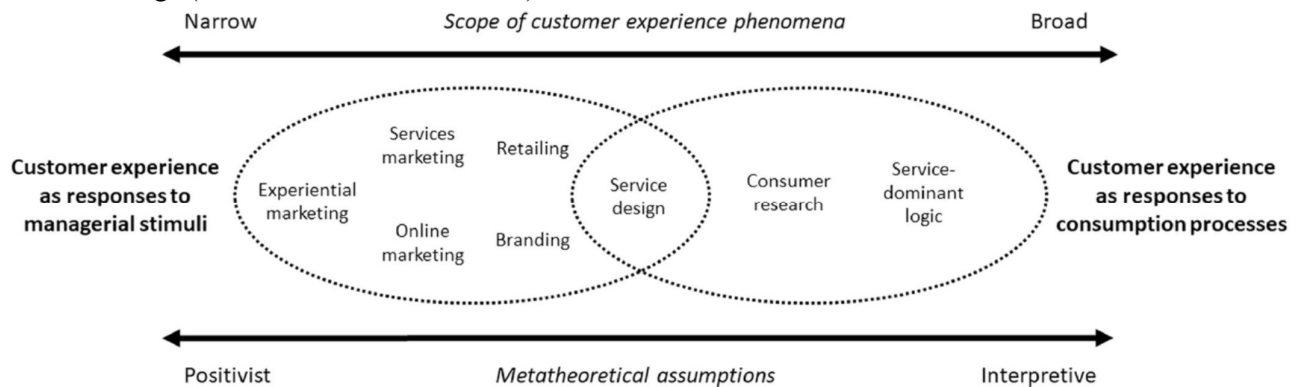


Fig.3.1 Scope of Customer Experience Phenomena

Source: Larissa Becker, et. al.,2020

The customer experience management process is associated with designing, implementing and measuring overall customer experience on one hand and efforts to promote the firms brand equity on the other hand (Katherine and Verhoef, 2016).

Systematic approach towards the customer experience management will help the business organization to acquire distinct and unique advantage over their competitors (Berry, et al. 2002).

The sustainable customer experience management strategy needs to be more customer -centric and entails larger inter-functional coordination within the organization to ensure the desired results throughout the customers shopping journey (Lamin B. Ceesay, 2020).

The advance technologies used by the organizations are very much helpful to collect, preserve and analyze the customer-centric information and use the same for designing the memorable shopping experience for the customers (Shah et al. 2006).

3.2 Customer Experience Management in Retail

The term ‘Customer Experience’ is coined by Pine & Gilmore in their book “Experience Economy” in 1999 where they have presented ‘experience’ as a new economic offering beyond commodities, goods and services. According to their further study, the contemporary customers are not just satisfied with good quality product or service, but they also expect experience which is “engaging, robust, compelling and memorable” (Gilmore and Pine 2002)

Effective retail management strategies are directly connected with the creation and use of positive customer experience (CE), and that further generates better outcomes for the retailers (Gentile, Spiller, and Noci 2007; Grewal, Levy, and Kumar 2009; Tynan and McKechnie 2009; Verhoef et al. 2009).

The customer experience management becomes more crucial and phenomenal in the sectors where there is more interaction between the company and the customers, and the strength of the service interaction determines the quality of the experience. This can be predominantly observed in the sectors like service, retail etc. (Cajetan, 2018; Zeithaml et al., 1990).

According to a study done in retail banking sector of Ghana, Africa, it has been observed that holistic approach towards the customer experience management will be very much useful in enhancing the customer loyalty (Omoriegbe et al. 2019).

The nature of technology is rapidly growing resulting into shift of shopping experiences into partially or fully digital. As a result, major retailers are trying to adopt the new generation digital technologies to sharpen their capacity to deliver better experience to the customers in the new battleground of the competition where the experience has become the vital tool in the global retail ecosystem (Bilgihan, 2016; Pantano & Priporas, 2016)

Retailer can make use of tangible products and intangible services to generate memorable in-store shopping experience (Chen & Lin, 2015; Tsaur, Chiu, & Wang, 2007; Pine & Gilmore, 1998). In last few years the competitive battleground has shifted its focus on customer experience. After commodities, goods and services, experience has become the fourth important economic offering from the retailers' side in process of creating satisfied customers (Pine and Gilmore, 1998). Strong shopping experience plays a pivotal role in the customer's buying decision process (Zeithmal et al., 2011).

Shopping experience is strictly personal aspect for an individual which strongly impacts ones physical, emotional, spiritual, rational and sensorial levels of cognition. The evaluation of these experiences takes place via comparison between the customers' expectations and the sensory stimulus received by the customer at every touch point during the interaction with the organization throughout the shopping trip (Gentile et al., 2007).

Many studies have concluded that the hedonic value and the utilitarian value combinedly determine the shopping experience outcomes. The availability of products, variety, quality price etc. will impact upon the utilitarian value whereas the store atmosphere, employee interaction, services and the facilities will influence upon the hedonic value for the retail shoppers (Cottet, et. Al.,2006, Teed et al. 2010).

Few studies have defined that positive emotional bonding with a particular place is very much useful. This can be used by the retailers to create store loyalty among the shoppers (Johnson et al., 2015; Karlsson & Nilsson, 2017).

Customer Experience Management (CEM) helps the retailers to build long-term competitive advantage on one side and provides evident results in the form of loyal customers with strong and positive word-of-mouth, better customer retention and lesser complaints on the other side (Kim et al., 2011).

Managing the positive customer experience and improved business performance cannot be detached in the present business scenario. Customer experience is the sum of all thoughts that customer perceives about the way organization treats them. Smart CEM acts as a competitive

differentiator, helps the retailer in enhancing its market share as well as improving the customer loyalty by reducing the customer switching behavior (Kavitha and Haritha, 2018; Lundaeva, 2019).

When customer expectations are not met, it results into high customer churn as the customer start looking for the alternatives in search of better customer experience (Murwisi, 2018).

The store appearance, space functionality, perceived service quality and value-added benefits have significant impact on the desire of the customers to spend more time and money This clearly shows the role of store atmospherics in the customer engagement as well as the overall shopping experience. Study also tries to identify the requirement of the augmentation of customer shopping experience as the crucial element in the improvement of store performance (de Nisco & Warnaby, 2013; Weltevreden & Van Rietbergen, 2007).

Few organizations have adopted co-creation approach where the customers play a crucial role as experience co-creator by engaging the customers throughout process of product design, production, delivery and consumption. Here the company provides the artifacts and contexts that are conducive to experience creation and the same are used by the customers for the creation of perfect experience (Caru & Cova, 2003, 2007).

The positive customer experience has direct and significant impact upon the brand equity. It insists upon regular interaction between the customer and the organization (Biedenbach and Marell 2010).

The synthesis of many studies clearly show that customer experience is an emotional connect between the organization and the customer, it is completely internal for the customers, it largely depends upon the moment of truth, and it is non-figurative and illusive in nature. The customer experience management is challenging as the customer experience is highly industry-specific or sector-specific in nature (Knutson et al., 2007).

The holistic customer experience has six pragmatic elements such as sense, feel, think, pragmatic, act and relate. All these are highly interrelated and very tough to separate from each other. In fact, all of these are overlapping one another due to complex feeling and perceptions about customer experience (Gentile et al. 2007).

The in-store shopping experience can be characterized into four variable outcomes such as joy which echoes the fun and entertainment elements in the customer experience, mood refers to the emotional entity about the positive or negative shopping experience, leisure connects to the

symbolic aspects associated with the shopping as an act of leisure and refers to the exceptionality of the shopping experience in a particular store. In this entire concept the most challenging component of the customer experience to manage is 'Mood' (Bagdare and Jain 2013).

It has been observed that, the customer shopping experience will be adversely affected due to employee complaining. The employee complaining may be about the work burden, rude supervisor, bad or stressful working conditions, extended working hours, extra responsibilities or even about the other customers, all may result into negative customer experience and may further result into negative attitude towards employees, negative attitude towards company as well as negative word of mouth (Jennifer A. Locander et.al.,2020).

According to some studies the transactional businesses gain more from the positive customer experience as the customer who gain the positive experience tend to spend more up to 140% compared to the customer who have negative shopping experience (Kriss 2014).

Digitalization has a deep impact on the CEM. It has influenced the customer experience in the mode of changing customer expectations, altering buying behavior, integrating the customer touchpoints, and boosting the level of competition. The retail digitalization will be very much useful for the brick-&-mortar retailers in the form of improving customer-retailer relationships and increased interaction with their customers using new technologies diminish the risk and augment their chances of implementing the new technology into the retail business (Aaron Donnelly,2020)

On very serious note, the retailers are transforming their brick-&-mortar stores into “experience store” or the “concept stores” with the intention to deliver memorable shopping experience and enhance the store performance (Jones, Comfort, Clarke-Hill, & Hillier, 2010, p. 242).

Modernization and digitalization pose as a big threat to brick-&-mortar stores, but it also provides opportunity to use the technologies to improve the customer value by enhancing the service offerings (Reddy & Reinartz, 2017).

In few studies it has been observed that the retail customers are not just happy to buy the products at the cheaper price, but they are more focused upon other factors like good customer service, proper attention to their need fulfillment, prompt delivery of ordered goods etc. Hence to remain competitive in the present retail scenario, retailers need to shift from price focus to experience focus (Chiliya, Herbst and Roberts-Lombard, 2009, Du Plooy et al., 2013)

The modern retail formats are trying their best to deliver best value for the customers through wide variety of products, better facilities and services, memorable shopping experience via full control of their own on the shopping, convenience and speed (Kusuma et al., 2013).

In present business scenario the customers who appreciate the ‘touch’ aspect tend to visit the stores for their shopping. Hence the retailers need to redefine the store offerings by improving the human service employee performance as well as the use of modern technological solutions to deliver memorable instore shopping experience which cannot be replicated by any other channel. In this process of change many human counterparts are rapidly replaced by the digital solutions, and the retailers are also in need to understand how this change is perceived, accepted and adopted by the customers (Mende & Noble, 2019). As a part of their customer study, Canadian retailer Lululemon made the provision of Yoga studio and offered their customers you buy the yoga-inspired clothing to practice yoga inside these studios with the help of ‘Zen-pods’ the built-in devices which offers the visitors to practice self-guided meditation. This sincere effort of Lululemon was to know the impact of instore shopping experience on the customer satisfaction level (Mende & Noble, 2019).

Customer experience has emerged as an additional value for the customers as it adds happiness or satisfaction at every touchpoint in the entire shopping journey of the customer. In the new product construct the positive customer experience acts as an extra layer of attractiveness as shown in the below figure (Rekettie, 2019).

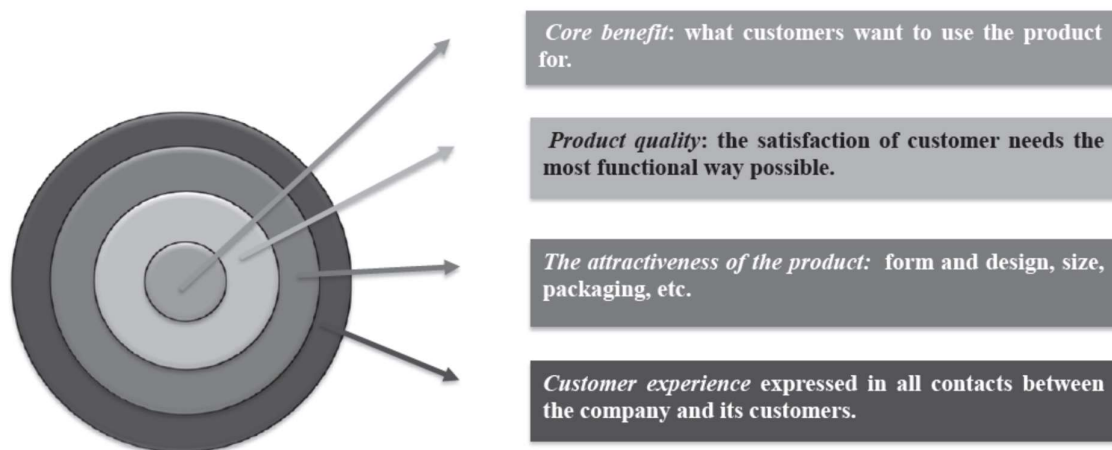


Fig.3.2 The new Product Construct

Source: Rekettie 2019, 81

3.3 Role of Retail industry in economy and impact of Customer Experience and SRTs

Indian retail industry is the 5th largest in the world with a massive size of US \$1100 billion making it a large contributor to the nation building. Retail sector contributes to the economy in the form of 10% of the GDP and the 8% of employment. Retail ecosystem has seen a tremendous change in last few years. India has approximately 15 million stores operating across the country. Majority of these store are small conventional store from the unorganized sector (India Retail Industry report,2020, IBEF).

The small retailers are under tremendous pressure to compete with large retailers, multinationals as well as the online retails. Loss of these retailers may have adverse impact on the economy, employment as well as it will create a vouge in the market (Murcott et al., 2013). Similarly, this type of loss may result into bad impact on social welfare as it may cause the difficulty in access food and other essential among the common public and also loss to the economy due to failure of the businesses (Hallsworth and Coca-Stefaniak, 2018).

It will be largely beneficial to the self-employed if they achieve stable and sustainable growth for their business via customer satisfaction and through adoption of better business practices to improve the performance of the retail business, even the small size store should focus on these aspects on a series note (Woohyoung Kim, et. al., 2020).

Customer experience can be considered as new strategic framework which connects the customers and the businesses and opens the new source of revenue generation. This strategy can be useful for all types of retailer despite of their format and size (Lemon et al., 2001).

Self-employed small traditional retailers can improve customer experience by modifying their business formats and by adding few new variables to their offerings, so that they enhance their competitiveness against their new rivals and achieve a sustainable growth (Jasek et al., 2018).

3.4 Scope of SRTs in the Retail Business

Shoppers frame their perceptions and mount their emotional responses based upon the type of SRT used by the retailers. These SRTs, hypothetically impacts customer loyalty, energies purchase intentions and forms a core competency for the retailer. From the consumers' point of view, blend of SRTs with the conventional brick-&-mortar stores will augment the access to greater information about the products and services, ensure larger convenience and fosters

stronger relationships with retailers. This hallmark combo will be very much helpful in promoting consumer liberation, engagement, and experience (Yang, 2013).

These SRTs proved to be capable of offering greater flexibility, enhanced scope for customization and source for the significant reduction of operating cost for the present generation retailers. Implementation of SRTs also opened the doors for the retail business organizations for collecting useful information about consumer behaviour and the need patterns of the shoppers (Liao and Chen, 2004). However, SRT also impose few roadblocks such as reduction in organizations capabilities, knowledge transfer activities, as well as other CRM practices (Pantano, 2014; Pantano and Viassone, 2014). No doubt the benefits offered by SRTs are much greater than the shortfalls.

The exponential growth of e-commerce with 20% on average CAGR is on one hand with the stable and sustainable situation of the traditional retailing is on the other hand which is quite surprising and contrasting as well (Deloitte, 2011). Technology is one of the profound drivers behind the transformation of omni-channel shopping behaviour and followed by the optimization of shoppers marketing makeovers (Shankar et al., 2011). In the process of evolution of retailing, various technologies have played a vital role as change reagent or the catalyst (Hopping, 2000).

Research about the customers intention to use online shopping facilities is based upon the Reasoned Actions Theory and the Technology Adoption Model (TAM). This study clearly identifies that factor such as ease of use, compatibility, perceived usefulness, data privacy & data security, self-efficacy and normative belief are very important in the process of new technology adoption by the customers (Vijayasarathy 2004).

There is another study trying to verify the customers intentions and willing ness to adopt or reject a technology based upon the analysis of balanced approach between willingness and experiences of individuals, personal capacity and the operational desirability. It also relies upon the intent for which the technology is used for as well as its protentional benefits for the customers and the retailers (Walker, Craig-Lees, Hecker, and Francis 2002).

Today, when the bricks-and-mortar stores are concocting for 2-sided battle with other store-based retailers and the online merchants at the same time, there is a fair scope to gain a

competitive advantage in various areas of retailing with the help of promising technologies and get a fair chance of sustenance and grow in today's brutal multichannel competition (IBM, 2012).

Retailers can draw many useful insights using big data analytics and analysing the voluminous data about the customers' shopping transactions, basket composition, price paid, preferred brands, quantity and the customer related data like age, gender, family composition etc. These insights will be very much helpful for the retailers to plan their inventory, pricing, logistics, store operations and future promotional strategies (D. Grewal et al. 2017).

Despite emergence of various Smart Retail Technologies and acknowledgement of its influence upon the customers' shopping experience by the Retailers all over the world, very a smaller number of studies are found coving this topic (Meyer, 2007, Shaw & Ivens, 2005).

Many brick-&-mortar stores started adopting the new smart technologies to improve their performance as well as offerings for the customers but, the 'human-technology' association is not as predominant as the 'human-human' association because the customers do not have intense expectations from the technology the way they have from that of the retailers as the socio-emotional equation is more intense in this context. Hence the retailers need to understand that implementing the smart digital technologies in the customers shopping journey will have significant impact over the customer-retailer relationship (Hagberg et al., 2016; Hagberg et al., 17, Keeling et al., 2013)

The retail scenario has changed rapidly and the selling good product at reasonable price is not sufficient for achieving the customer satisfaction. Customers nowadays are looking for good ambience, latest technology and better shopping experience along with the good quality products. Hence, it has become very crucial for the retailers to adopt new technologies and use them for better customer service, efficient inventory management and the errorfree delivery of the goods (Ayers et. al, 2017).

Over last few years, the retailers are looking for and efficient solution to handle the bulky supply chain management and the latest technologies such as Internet of Things (IoT) has been proved to be of great help in the process of handing supply chain management (Kailash et. al, 2017).

For the smooth functioning of the retail operations, logistics & supply chain management can be improved with the use of most commonly used IoT based technologies like RFID (Radio Frequency Identification) and NFC (Near Field Communication) can be of great help (Ben-Daya et al, 2017).

3.5 Types of SRTs at different stages of Shoppers' Path-to-Purchase

Various smart retail technologies can be largely split into two types like 'cost - saving' and 'service – enhancing' technologies. Research is required to know which of these technologies the retailers will adopt and use for the improvement of their business performance. Most of the retailer may like to use these technologies to improve the store attractiveness with retail offerings having lower cost and higher level of service for their customers (Sethuraman and Parasuraman 2005, p. 107).

From the retailer's point of view the customers purchase journey has three phases: pre-purchase, during purchase and post-purchase. Retailers need to know the information about each of these stages to ensure the strong engagement and positive customer experience during the entire purchase journey of each customer. Technologies can be of great help in this process as those will involve in the customer's purchase journey and help in improving the customer awareness, engagement and the experience associated with the products and services offered by the retailers (Grewal and Roggeveen 2020).

The Swedish furniture retailer IKEA uses the augmented reality (AR) application which can project the image of the furniture through mobile or tablet to help the customer in selection of a particular product through a visualization how a particular product will look in a specific place (Maggio, 2017). IKEA also offers the option of personalization of the furniture with the help of digital interactive screens. Customizations leads to more tailored shopping experience as these customized products has greater functional as well as emotional value from the customers point of view resulting into larger customer satisfaction (Sahi, Sehgal, & Sharma, 2017).

The following fig. explains about various customer-interfacing retail technologies which can involve into various stages of the customer purchase journey and primarily facilitate the customers via enhancing their shopping experience, saving time, cost, adding convenience and facilitating the better selection etc. (Roggeveen A L & Sethuraman R 2020).

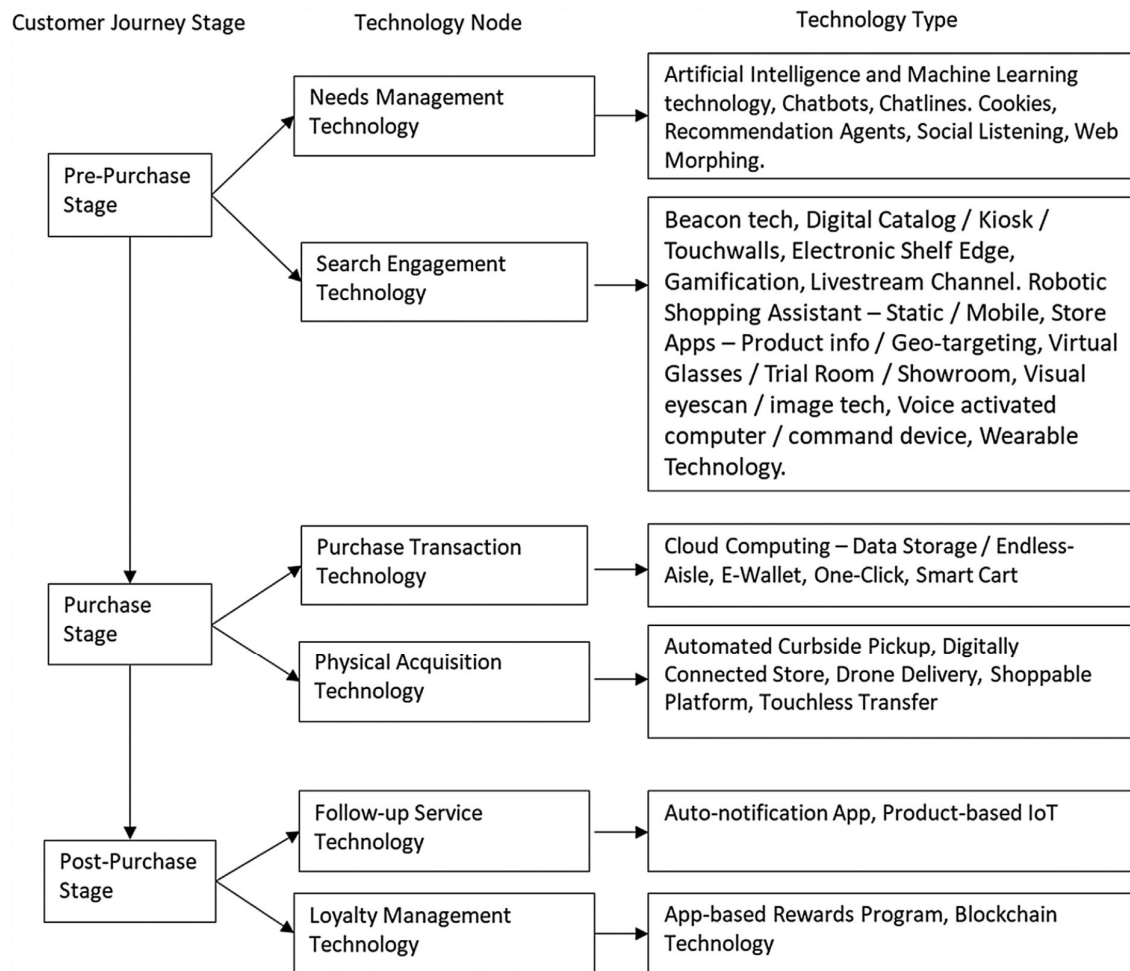


Fig 3.3: Shopper-interfacing Retail Technologies: A Customer Journey Framework
(A.L. Roggeveen, R. Sethuraman / Journal of Retailing 96 (3, 2020) 299–309)

Needs management technologies and the search engagement technologies will be very much helpful for the customers during pre-purchase stage as these technologies will help the customer to define their need properly as well as collect information about various products and services and then make a proper selection (Lemon and Verhoef2016).

The purchase transaction technologies and the physical acquisition technologies will be helpful for the customers during the purchase stage where customer with the help of these technologies can comfortably make the purchase, ordering and the payment. In the similar manner the Follow-up service technologies and the loyalty management technologies will be very much useful for customer engagement in the process of consumption, post consumption evaluation and the follow-up program of the retailer as a part of their loyalty management program (Roggeveen A L & Sethuraman R 2020).

3.6 SRT for Retailer, Shopper, and both

The retail business organizations are consistently suffering from the problem of inventory inaccuracy or stock mismatch. This issue has been further intensified due to Omni-channel retailing (Mou, Robb, & DeHoratius, 2018). Many studies in past have clearly identified that if the real-time inventory is visible to the retailers, they can operate their business with 30% lesser inventory (Stelter, 2015). The RFID tags, a subclass of IoT devices can be very much helpful to address supply-demand mismatch issues which are now on rise because of omni-channel retail initiatives taken by the store-based retailers to improve their revenues (Finkenzeller, 2015).

IoT data will be useful in the retail pricing process, which allow rapid pricing decisions or short-term rebates in today's fashion-sensible world. As the retailers are regularly launching new products, it will be difficult to price them. AI, IoT and Machine Learning Algorithms will be very useful in analysis of demand forecasting, customer shopping data and concurrent inventory monitoring – to adopt dynamic pricing (Coresight Research, 2018).

IoT enabled sensors may be used to provide extremely accurate inventory location and path tracking information, which can be used—in blend with beacons to ensure digital proximity engagement with the customers and may be used to enhance customer shopping experience within store may be by offering personalized promotions (e.g., Digital coupons for nearby smartphones) (Stanley, 2016).

IoT helps the retailers in designing planograms and identifying the best location for each merchandise as well as promotional displays which will be useful for optimizing purchase decision as well as stimulating impulse buying (Knowledge@Wharton, 2009). It will also positively impact on conversion rate and the growth in future customer traffic (Perdikaki, Kesavan, & Swaminathan, 2012).

A recent study had highlighted the importance of smart technologies like sensors and RFID tags to acquire the data about the retail shoppers, buying process, inventory turnover and buying preferences so that such data can be analyzed to improve the retail acumen. It can be a great opportunity for the retailers to use such data to optimize the customer experience and there by the sales and revenues (Anderson & Bolton, 2015).

Retailers and the customers, both will be benefited with personalization of smart technologies as it will result into user specific solutions. But it also creates a big concern among the customers about the data privacy and data secrecy as they are not sure about how much data the retailers have about them and this privacy paradox will create a dilemma about using these smart retail technologies (Aguirre et al. 2015).

Various smart technologies like self-checkouts, scan & go technologies, mobile apps, QueVision, smart shelf technologies are very much beneficial for both the customers and the retailers as those help in saving time for customers and enhance profitability for the retailers. Many grocery retailers have used the QueVision to bring down the customer waiting time from more than 4 minutes to less than 30 seconds thereby improving customer experience up to large extent. Such technologies help retailers to generate happier customers and stress-free employees (Inman and Nikolova 2017).

Various innovative technologies are useful for the customers as those help them in product selection, reduce the time pressure, increase their confidence and satisfaction level about the product purchase and use. Hence it is suggested to the retailers to embrace new and innovative technologies to engage the customers, make their life easier and improve the overall shopping experience for them (D. Grewal et al. 2017).

All the retailers mainly focus on delivering better value for their customers. Hence the retailers use many technologies for the purpose of ‘value creation’ but another important business aspect is ‘value capture’ that is nothing but how the retailers receive value from their customers for the profitability of the business. The retailers need to identify those technologies which will be useful for not only value creation but also value capture resulting into enriched benefits for both the retailer and the customer (Kumar & Reinartz, 2016).

3.7 Smart Retail Technologies for Smart Customer Experience

A smart partnership may be established between the retail shoppers and the retailer through instore adoption of Smart Retail Technologies. Simultaneously the retailers need to understand the changing patterns of consumer behavior and shopping expectations (Chang et al.,2016).

Customers are becoming more tech and internet savvy. They are becoming more sensible about their shopping as well as the value received against their effort involved in the shopping. Hence,

retailers as well as other businesses tend to offer more targeted, more responsive and equally efficient customer services with the help of smart technology to enhance their shopping experience (Immonen & Sintonen, 2015).

3.8 Strategic role of SRT in Smart Customer Experience Management

The fourth transformation called Retail 4.0 is the underway with the help of technologies like Internet of things, Artificial Intelligence, big data analytics and AR/VR which is helping the retailers in attracting and retaining the customers (Srivastava 2008; Kamble et al. 2019).

Various smart retail technologies are useful of the retailers in the optimization of store layout, energy management, improvement in store operations, inventory management, effective category management, stock replenishment and improved services for the customers. The Retail 4.0 is capable of delivering numerous benefits for both the retailers as well as the customers in the form of better display of products, easy traceability of the products, personalized offers and discounts, smooth movement of logistics, reduced delivery time and better management of the shelves (Pantano and Timmermans 2014).

The big data analytics is expected to be useful for the retailer to achieve better insights about the customers and to improve the business performance, but much empirical research has not yet done to identify the impact of big data analytics on overall organizational performance in the era of Retail 4.0 (Raman et al. 2018).

3.9 SRT for enhancing shopping value

Many retailers like Amazon are planning to use drones and robots for better delivery and logistics management. Retailers want to use robotics extensively to improve the performance of their distribution centers. The retailers want to take advantage of the latest technology to deliver better customer experience and enhance the shopping value for the customer for every penny spent by them (Van Doorn et al. 2017).

Transformation of the retail world viz integration of digital smart technologies with the retail business operations to deliver higher level of shopping experience has resulted into better value creation (Pantano and Viassone, 2015; Saarij rvi et al., 2014) and value capture for the present generation customers (H nninen et al., 2018; Hure et al., 2017).

Retailers in last few years are putting their efforts towards integration of the business channels to create the omni-channel scenario for the purpose of delivering more personalized customer experience (H'anninen et al., 2019). The retailers are spending large resources on the personalized customer experience but there hardly any empirical research happening to evaluate the returns on investment made for personalization process (Kalaiganam et al., 2018).

Lemon and Verhoef (2016) have suggested for the future research to define clearly about the relationship between the customer experience management efforts of the retailers at every touch point during the shopping journey of the customers and their loyalty intentions.

Customers purchase intentions and the experience has strong significant relationship as the customers recall their past positive shopping experience to show their willingness to repurchase from the same store again and again (Bilgihan, 2016; Chiu et al., 2014; Kim and Han, 2014).

Organizations design a holistic package in the form of customer experience management that attracts, retains and offers additional value to its customers (Clemes et al., 2019; Teixeira, 2012).

The retailers and customers can work together to create better value for both of them making the process as value co-creation. The new generation digital technologies make this value co-creation process more seamless, enabling customers to enhance their own shopping experience during the path of purchase (Bassano et. al., 2018).

3.10 Customer Engagement and Customer Experience

The customer relationship management strategies of many companies are facing strong challenge as the internet has empowered the customer to share their positive and negative shopping experience with each other and the society without any involvement of the company. Such customer engagement needs to channelize for better customer loyalty with the help of significant customer experience management strategy (Duan, Gu, & Whinston, 2008; Vermeulen & Seegers, 2009).

The customer experience is a psychological construct, which is result of the customer's contact with the retailer and it involves the customer engagement at various levels such as emotional,

affective, pragmatic, sensorial, cognitive, and relational (Gentile et al., 2007; Lemke et al., 2011).

Customer Engagement is the set of activities that strengthen the relationship between the customer and the organization through repeated interaction for strong emotional, psychological, and physical investment of the customer in the brand or the organization (Sedley 2010, p. 7).

Use of customer engagement for better customer experience largely depends upon the category of the retailer. The food retailer may engage the customer by promoting healthier eating (Wansink 2017), the fashion retailers may engage their customers using virtual fashion shows (Deloitte 2016). Hence it is very important for the retailer to use innovative tools and techniques to keep their customers engaged and gain better shopping experience (Wansink 2017).

Powerful and memorable customer experience can be established through active interaction and improved engagement between the customer and the company at every touch point during the customer's shopping journey (Buttle, 2009).

Since last few years, many companies are putting the concrete efforts on establishing strong customer engagement and sustainable customer experience for their customers because it brings high patronage, grater sales volume and improved customer loyalty as a result of all their consolidated efforts (Zhong and Moon, 2020).

The present generation customers are more information savvy and very much willing and eager to share their shopping experience over the social media which may result into strong impact on the other shoppers (Solomon 2018).

3.11 SRT and Customers' Sense of Vulnerability

Many retailers are planning to adopt the smart retail technologies but highly skeptical towards the customers sense of vulnerability for their data privacy mainly in the highly personalized service scenarios such as facial recognition, locational tracking, emotional tracking voice encoding and interpretation etc. which in fact aggravate the customers' fear about their privacy concerns (Martin, Borah, and Palmatier 2017).

Few retail technologies may record increasingly sensitive data about the customers like body temperature, personal taste and preferences, contact identities, consumption history, travel history etc. which customers may not be comfortable to share with. Customers may shy away while sharing such personal data and many be reluctant to use such technologies (Brough and Martin 2020).

Customers feel highly uncomfortable and vulnerable when the retailers record uber-personalized information about the individual customers and the risk of privacy evasion is visible to them (PwC 2018).

Collaborative interface between the retailers, consumers and the regulatory stakeholders will highly appreciable while dealing with retail research and the manifestation of the data privacy issues in the global prospective (K.D. Martin et al.2020)

Strong privacy policies and privacy protection assurance can be a strong retail strategy in this competitive scenario. Such policies will project the transparency as well as offer the control to the customers (Martin, Palmatier, and Borah 2018).

Data privacy is a critical issue in the retail world and the retailers need to ask the customers permission before collecting their personalized data to build the trust among them (Brough and Martin 2020).

Many self-service technologies are actually not complete self-service as significant intervention from the staff is much needed to enable the customers to use such service successfully. Similarly, there is a perceived risk associated with the new technologies about the uncertainty of performance and the further consequences arising there off due to the usage of this new and innovative technology. Possibly the trust factor may play an important role in convincing the customers to adopt and use such new technologies without hesitation (Pantano and Gandini, 2017, p. 368)

Digital technologies are very much crucial for value co-creation and value capture, but the role of customer attitude and their risk perception will be remarkable as it will be one of the important aspects in the process of implementation of the technologies specially for enhancing the customer experience in the retail ecosystem (Inman and Nikolova 2017).

3.12 Retail Store Atmosphere and the Shopping Experience

The retail store atmosphere plays a key role in the buying decision process of the retail shoppers and hence the retailers use many sensory elements such as color, music and scent to enhance the shopping experience of the customers (Grewal et al. 2017).

Retailers are trying to make use of the recent technologies as a part of store atmospherics to make the shopping more fun, immersive and filled with interactive engagement (Cearley et al. 2017). Recently the retailers have adopted many digital and smart technologies like interactive displays, digital kiosks, self-checkouts, virtual mirrors and augmented reality to make their offline stores full of innovations to help the customer to try more products and choose a better product with the simple touch making the shopping more jovial and fulfilling (Dennis et al. 2012; Duncan et al. 2016).

The retail stores are using many ICT enabled technological solutions to enhance the retail store atmospherics which is referred as “Digital Atmosphere”. Few popularly used digital atmosphere examples are Adidas Wall, Memory mirrors at Neiman Marcus, Interactive fitting Rooms at Tommy Hilfiger, and Magic Mirror at Top Shop which are used by the retailers to transform the store atmosphere and deliver a memorable shopping experience for their customers (Kim et al.2020).

Attractive and large size digital displays in the fashion store may be very much useful for the shoppers as the information provided by these displays will help the retail shoppers to make the product selection easier with the help of suitable information about the products and thereby making the purchase decision easier for the customers (Burke 2009; Dennis et al. 2010).

As a part of digital atmosphere, the digital displays in the store stimulate the interest of the customers, encourage them to touch the display and search for more information about the products, the touch technology makes the customers feel more attached to the products and motivates them to have a desire to buy and use the products which give them a sense of accomplishment towards their shopping (Hassan et al. 2015).

The combination of touch screen display and the RFID will be able to provide detailed information to the customers about the product details including size, colour, pattern, and also

about the real time inventory which will be helpful for the customers to finalize their purchase decision with much more ease and comfort (Jain et al. 2017).

3.13 SRT and the Survival of Brick-and-Mortar Retail

Various recent studies about the impact of digitalization on the retail ecosystem under the titles “retail apocalypse” (Mende & Noble, 2019; Helm, Kim, & Van Riper, 2018) and the “death of the High Street” (Baggi, 2014, p. 87) provides the clear picture about the turbulent phase for the brick-and-mortar retailers and also explains the reason behind large number of retailers gone out of the business in last few years. These studies also made it clear that good products, price and location are not sufficient for the survival of the retailers, and they need to focus upon the overall shopping experience offered by them during the shopping journey of the retail customers.

Very small of research has been done to know the customers and managers perspective in implementation of the digitalization in the retail business, as it is pivotal in the process of transformation of the retail business and the overall customer experience due to the digitalization (Helm et al., 2018).

The new age digital and smart technologies have provided with the opportunity for the retailers to enhance the value of their overall offerings and the customer satisfaction where technology plays a role of facilitator and generates significant hedonic as well as utilitarian value for the retail shoppers (Saarijärvi, et. al., 2013).

3.14 SRT and the Retailer-as-a-Brand

Few recent studies have revealed that the retailers are going through a paradigm shift where the product-as-a-brand concept is now changing into retailer-as-a-brand, and it is making the customers to emotionally attached with the retailer rather than a product in the value generation process resulting into shoppers prefer to shop from a particular retailer due to the emotional inclination and bonding with them (Khan and Rahman 2016).

The retail branding is helpful in strengthening both emotional and rational store-customer relationship and resulting into shopping as more fun and memorable experience by combining the effective shopping process and the retail brand image (Kumar and Kim, 2014).

The retail corporate brand image results into extravagant customer confidence towards the retailer's offerings and results into higher customer satisfaction and store loyalty (Mårtenson 2007).

4.0 Research Methodology

Research methodology lays the strong foundation for any study to help in designing, executing, and completing the research work in any field and hence deserves a special mention in this study as well. Research methodology is the systematic process through which valid and reliable results can be achieved based upon the research objectives and research problem framed under the study.

Research methodology is the blueprint of the entire research work completed under any study which provides the principals, values and theories that supports the research approach.

4.1 Research

Research in the social sciences can be considered as search for the knowledge. Research is the process of scientific and systematic investigation in regards of specific aspects in search of knowledge. Research includes a very organised process of formulation of research problems, defining the research objectives, framing of research hypothesis, collection of the data, analysis of the data and synthesis of certain meaningful conclusions based upon the study.

Research is always on the periphery and the center of the social as well as economic life. It seeks answers for various unanswered questions. In fact, research involves into fact finding as well as solving problems associated with the life following a scientific methodology.

According to Francis G. Cornell, the best research needs to be reliable, verifiable, and exhaustive, to the extent that the information generated through it can be trustworthy. The research in social sciences is purely about the human behavior and the various activities performed by the individuals. Hence, according to this research every intelligent aspect of the human behavior is involved with certain research in it.

Research is careful inquiry or diligent investigating to ascertain something. Research is always problem centered. It is based upon honest and exhaustive process of problem identification, data collection and analysis to discover valid and verifiable outcomes. It contributes to the body

of knowledge. Research methodology enables the study to prove any theoretical assumptions in empirical way with the help of a research design and various statistical tools for achieving complete analysis and the understanding about the topic under study.

Research is not just an academic activity, but it has many applicable uses in the real-life scenario of business as well as social life. Research may be qualitative, quantitative, or mixed method research. It is usually adopted for finding the solutions for unsolved problems. Research helps in acquiring knowledge in the areas where there are many unanswered questions and untapped problems if solved will result into remarkable paradigm shift in the social, economic, environmental, and psychological world.

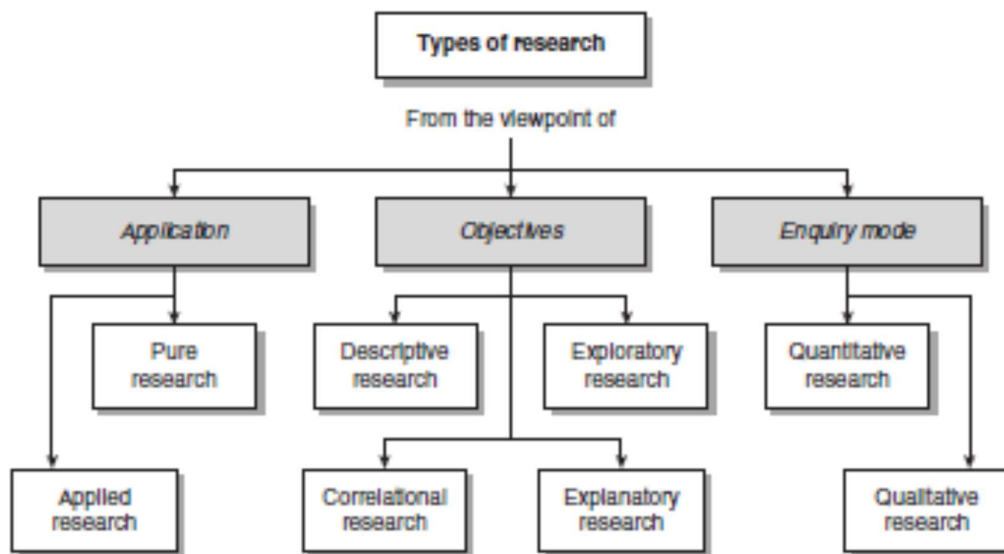


Fig:4.1 – Types of Research

Source: Ranjit Kumar, Research Methodology – A step-by-step Guide for the Beginners

4.1.1 Specific Characteristics of Research

1. Research is based on scientific philosophy of social studies.
2. Research relies upon the imagination as well as insights.
3. Research needs inter-disciplinary approach.
4. Research usually adopts deductive reasoning.

5. Social science research is not similar to physical science research.
6. Research can be qualitative as well as quantitative.
7. Research is problem-centered
8. Research depends upon inter dependence of cause and effect.

4.1.2 Kinds of Research

The research is classified in various types based upon the criterion given below:

A. Based upon the Objectives of Research

The research is broadly classified in two types based on the objectives of research:

1. Fundamental research and
2. Action research.

B. Based upon the Approach of Research

Approach of the research can be used to classify it in following manner:

1. Longitudinal research: The study which covers same data points for collection of data and analysis over a longer duration of time is called as longitudinal research. Various subcategories of the longitudinal research are Historical research, case study and genetic research.

2. Cross sectional research: When any study restricts itself with one time period but at multiple data points for the analysis such research is called as cross-sectional research. There are many cross-sectional studies conducted in social science research like experimental research, survey etc.

C. Based on Precision in Research Findings

Precision or accuracy of the research findings can be used to classify the research in the following format:

1. Experimental research - a study based upon certain controlled variables to test the cause-and-effect patterns is known as experimental research.

2. Non-experimental research – When a study is performed in the real-life conditions it is known as non-experimental research because here the outcome of the study may vary time to time due to many uncontrollable parameters associated with the study.

D. Based on Nature of Findings

The nature of research findings can be used for the purpose of classification of the studies in the below given types:

1. Explanatory research: Various studies which are more concern about fundamental principles, theories as well as laws are categorized as explanatory research.

2. Descriptive research: The studies which rely more upon the material facts are called as descriptive studies.

E. According to National Science Foundation

The National Science Foundation has provided following criterion for the classification of research:

1. Basic research: All those studies which are focusing upon contributing to the body of existing knowledge are described under basic research.

2. Applied research: The studies which have certain level of real-life applicability as far as their results are concerned are considered as applied research studies.

3. Development research: Various studies involved in incremental up gradation off the scientific knowledge for the purpose of its application in the field of systems, instruments, material management, designing, production planning and control as well as engineering are classified under the development research.

F. Another Classification

1. Adhoc research: When research is conducted for a specific purpose alone and its results cannot be generalized, such research is called as Adhoc research.

2. Empirical research: When the study is based upon the experience or the observation of an event or phenomena such research is known as empirical research.

3. Explained research: This is a theoretical study.

4. Boarder line research

4.2 Research Gaps

These latest SRTs empower the retail shoppers with greater self-sufficiency to create their own shopping experience. Hence further research is required to understand the elements in customer experience with more precision (Ostrom et al., 2015).

The role of technology in store operations has to be studied and parameters for managing, evaluating and integrating the technology-based operations is required in the context of improving retailer's efficiency. (Shandong Mou , David J. Robb, Nicole DeHoratius, 2018)

Previous studies have explored the ways of using smart technology to improve customer experience, but further scope is there to study about how these smart technologies will help the retailers to enable them to pull more customers to store, especially those customers who prefer online shopping to avoid the crowd. (H. Van Kerrebroeck et al.2017)

Further research is required to establish more precise role of AR in the process of improving the retail business. Study is required to achieve better understanding about the contributions made by AR, whether it is direct in the form of increase in sales volume or in indirect by triggering the customers inquisitiveness towards new products and motivates them to try such things. A strong and determined research is the need of the day as many questions are still unanswered about the functional benefits of AR in the retail industry. Further study is also required to identify exact role of AR in the retail customers shopping journey. (Mark Yi-Cheon Yim, Shu-Chuan Chu & Paul L. Sauerv,2017)

There is a scarcity of research which can empirically substantiate the effect of Smart CEM and its attributes on strategic business outcomes such as customer satisfaction and customer loyalty (Martin et al., 2015; Rose et al., 2012), leading to a research gap.

New research across the geographic market segments is much required to gain further clarity upon the discernments of CEM and the impact of cultural aspects on OCE dimensions. In the present research moderating impact of gender on the OCE-satisfaction-loyalty chain is analyzed, but moderating impact of other demographics such as age, education and income is not studied. Hence it is suggested to undertake further research to define the role of various demographics upon the OCE. It will be of utmost beneficial if research is carried out to gain

clarity upon the long-term consequence and influence of OCE on the success of e-retailers. (Shweta Pandey, Deepak Chawla, 2018)

Evanschitzky, Iyer, Pillai, Kenning and Schütte (2015) in their study try to define the scope for the future research to report that further research is needed to recognize the crucial elements associated with the customer acceptance of IoT technology.

Since individual characteristics and psychological aspects may have an influence on technology adoption (Kim & Shin, 2015; Pramatarı & Theotokis, 2009), future research can be conducted to define their role in value co-creation for IoT.

Study by Kristina, etal, 2017, has defined that present generation retailers try to use technology in varied ways and the adoption of these SRTs is at the very nascent stage ity may not be possible to identify the exact impact of SRTs on the retailers' performance. Also, research is required to be conducted to verify the exact role of SRTs in enhancing the shoppers' in-store experiences (Kristina Bäckström & Ulf Johansson,2017).

Research is required to identify the various values added by the smart technologies to the customer as well as retailers.

Study is required to identify the demographic parameters that affect the adoptability of smart technology by the customers.

Research is needed to identify the role of smart technology in adding hedonic v/s affective value creation for the customers.

Further study is required to understand the responses given by the customers to the new technology and its impact on overall customer experience.

4.3 Research Questions

1. Which of the new smart technologies will be beneficial to customers and retailers respectively?
2. What is the role of customer demographics in adoption of the new technology?

3. What is the effect of customer attitude and involvement on smart customer experience?
4. How will the technology help to establish bidirectional interaction between the customer and the retailer?
5. How will the smart customer experience help the retailer to achieve higher customer loyalty?
6. How are the store atmospherics modified due to smart digital technology?
7. What is the effect of smart customer experience on overall profitability of the retailer?

4.4 Research Objectives

1. To understand smart customer experience as the strategic differentiator in the retail sector leading to creation of store loyalty among retail shoppers.
2. To identify various factor influencing the smart customer experience of the retail shoppers.
3. To study the relationship between smart customer experience and the demographics of retail shoppers.
4. To study the extent of customer engagement in the era of smart technology.
5. To study the role of technology in enabling the customers to navigate seamlessly through their shopping journey.
6. To identify the value added by the smart technology to the retail shoppers
7. To determine the effect of smart customer experience on the retailer's profitability.

4.5 Theoretical Background

This study is based on three theoretical models

1. Service –Dominant (S-D) logic

Service-Dominant (S-D) Logic is a mindset for a unified understanding of the purpose and nature of organizations, markets, and society. S-D logic embraces concepts of the value-in-use and co-creation of value rather than the value-in-exchange and embedded-value concepts of G-D logic.

Service-dominant (S-D) logic is a meta-theoretical framework for explaining value creation, through exchange, among configurations of actors. The underlying idea of S-D logic is that humans apply their competences to benefit others and reciprocally benefit from

others' applied competences through service-for-service exchange (Vargo and Lusch, 2004).

The store-based retailers are offering range of services to improve the instore shopping experience of the customers and try to improve the store performance with the help of innovative ideas, creative technology, and consistent changes in the store layout to create better shopping store atmosphere. In present retail scenario it has become eminent to provide value added services to generate customer satisfaction as offering mere good quality products at reasonable price is not able to meet the elevated expectations of the new generation customers.

2. Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, several factors influence their decision about how and when they will use it, notably:

- **Perceived usefulness (PU)** – This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance".
- **Perceived ease-of-use (PEOU)** – Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989)

3. Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology (UTAUT) is a model developed by Venkatesh and others in consideration of the various elements such as Technology Acceptance, IT Adoption, Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. This model helps in understanding the way a new technology is accepted and adopted by the various stake holders in the business ecosystem. The UTAUT seeks to describe user intentions to utilize an information system and consequent usage behaviour (V. Venkatesh, et., al.,2003).

4.6 Research Hypotheses

The statement of hypothesis spells the expectation or the prediction which will be statistically tested through the research. Hypothesis is usually an educated guess which specifically defines the relationship between the variables, or the factors associated with the research. It serves as basis of the research which will test the relationship between the factors or the variables whether it is true or not. Hypothesis is very important for any study as it helps the researcher to establish the entire foundation for the planned research. The statement of hypothesis is the tentative outcome of the research which needs to be proved with the help of data analysis.

4.6.1 Types of Hypotheses

There are various types of hypotheses. Researcher may use any of these following based upon the nature of the study.

1. Simple Hypotheses
2. Logical Hypotheses
3. Complex Hypotheses
4. Empirical Hypotheses
5. Statistical Hypotheses
6. Null Hypotheses
7. Alternate Hypotheses

4.6.2 Characteristics of Good Quality Hypotheses

1. Power of prediction
2. Relevance to the problem under study
3. Simplicity
4. Clarity
5. Closeness to the observable things.
6. Testability
7. Specific
8. Relevance to the available statistical techniques.

4.6.3 Research Hypotheses under this Study

1. ***H₁***: There is significant correlation between Customer Engagement and smart customer experience.
2. ***H₂***: There is significant correlation between Customer demographics and the technology dynamics used by the retailer.
3. ***H₃***: There is significant correlation between attitude of Customer towards new technology and the technology dynamics used by the retailer.
4. ***H₄***: There is significant correlation between Customer Dynamics and the Customer Experience of the retail shoppers.
5. ***H₅***: There is significant correlation between Store atmospherics and customer experience.
6. ***H₆***: There is significant correlation between Store facilities and services and the Customer experience.
7. ***H₇***: There is significant correlation between Technology Dynamics and the Smart Customer experience.
8. ***H₈***: There is a significant correlation between smart customer experience and higher customer value and delight of retail shoppers.
9. ***H₉***: There is a significant correlation between smart customer experience and store loyalty & advocacy of retail shoppers.
10. ***H₁₀***: There is a significant correlation between smart customer experience and higher profitability for the retailer.

4.7 Conceptual Model for the Study

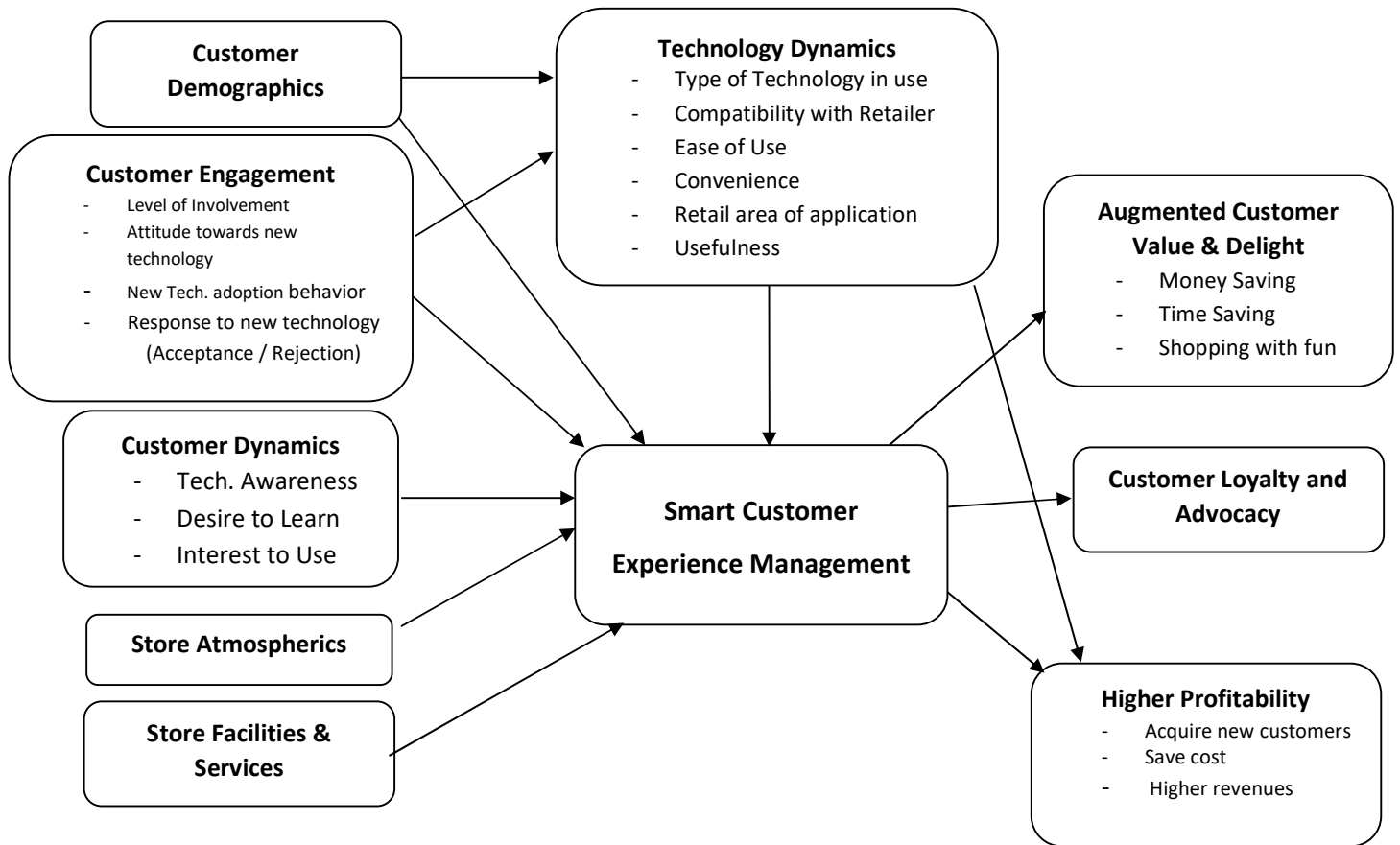


Fig4.2: Conceptual Model for the Study

4.8 Research Methodology

According to the American marketing association Marketing research is the process of data collection and analysis to connect the stake holders of business such as customers, marketers and the public. Marketing research is used to link the marketer with their customer via information. This information is very much useful for identifying various marketing opportunities as well as for understanding the marketing process as well as to define and solve various marketing related problems.

Marketing research is the process of preparation of a scientific design for defining, collecting analyzing and interpreting the data associated with specific market related situation with the intention of solving various business world problems. To conduct the marketing research

successfully, careful planning is very much needed at all the stages of research. It is very important to frame the research which is object oriented.

Companies conduct marketing research to acquire useful information for the purpose of:

- Effective planning of various business activities in future.
- Establishing control upon the marketing operations in present.
- Evaluating all the past results so as to project the trends of future.

Depending upon the nature of problem faced by any company, any one of the following investigation methods may be used such as:

1. Basic or fundamental research
2. Applied research
3. Designated Fact Gathering

4.8.1 Basic Research

A study or research which is undertaken with the sole intention of discovery of new knowledge horizons in the various arenas of knowledge and such results don't have immediate applicability in the real-life business problems such research is called as basic research. This research is also famously known as fundamental research.

4.8.2 Applied Research

Various studies which have immediate applicability in the form of solutions to the existing real-life problems via the analysis of the collected data and results are used to solve such problems, these types of studies are categorized under applied research.

4.8.3 Designated Fact Gathering

These studies are an attempt used for the investigation of certain pre-identified data sources and the attempts to gather some pre-determined data and then using the statistical tools to analyze such data for the purpose of finding certain facts related to the social world.

4.8.4 Steps in Marketing Research adopted in this study

Define the research problems and frame the objectives



Establish a systematic research plan



Collect information using scientific tools



Analysis and interpretation of the data



Presentation of the research finding

4.9 Research Design

Research design act as blueprint for the data collection, analysis, and interpretation of the findings under the study. In this study, exploratory research method is adopted by identifying the brick-and-mortar retail stores using various types of Smart Retail Technologies (SRT) to improve overall shopping experience of their customers and achieve better profitability for their business.

In this study the data is collected from the customers who have visited such stores and used these SRT enabled shopping activities and the responses from the store managers and staff about the performance and feedback related to these Smart Retail Technologies in the process of creating customer satisfaction, loyalty, and higher store profitability.

Data is collected through two structured questionnaires and in-depth interview of the store staff. The data is analyzed using various statistical tools via SPSS and AMOS application software and the results are published in the study for the reference of the industry and academicians for the future reference.

4.10 Geographical Area of the Study

This study is conducted in reference to the various store-based retailers using the SRT in their store all over the country. Hence the geographical coverage of this study is all India- specially the big Metro cities like Hyderabad, Bengaluru, Mumbai, Delhi, Kochi etc.

4.11 Population of the Study

This study mainly focuses upon the customers shopping experience in presence of Smart Retail Technologies and its impact upon the overall satisfaction level of the customers. Hence, the population under this study is accumulation of all those customers who have visited such store at least once and used the Smart Retail Technologies during their shopping.

4.12 Target Population of the study

There are very few such advanced technologically upgraded stores in India. All such stores are mainly located in the Metro cities like Mumbai, Delhi, Hyderabad, Bengaluru etc. In this regards all the customers visiting these stores for the purpose of shopping are targeted for the purpose of data collection for this study.

4.13 Data Collection Methods

4.13.1 Primary Data

Primary data is collected by using two separately designed structured questionnaires for the customers as well as the Retailers.

Survey Instrument (Questionnaire): The questionnaire used for the customers has 39 items associated with the different independent, dependent, mediating, and moderating variables. These items are collected from the various trusted scales used in the previous studies. Apart from these item various demographic details about the customers are also collected to analyse the impact upon the adoption of new technology.

The questionnaire used for the retailers has 18 items apart from the quantitative data about the footfall and profitability of the store in presence of the Smart Retail Technologies.

All responses are measured on a five-point Likert scale ranges from 5= strongly agree to 1= strongly disagree. The values assigned five-point Likert scale are: 5 – strongly agree, 4 – agree, 3 – neutral, 2 – disagree, and 1 – strongly disagree.

4.13.2 Secondary Data

Secondary data is collected from the various reports of survey agencies like Gartner, IBEF and the other published reports about the Retail Industry in various sources of high reliability and repute. Secondary data is also collected from few recent studies published in the recent times related to the Retail business scenario, Smart Retail technologies and the customer experience.

4.14 Items of the constructs and their sources

Variable	Item Code	Item	Source
Customer Engagement (CE)	CE1	Presence of Smart Retail technology (SRT) has impact on the store selection for shopping	Sanjith Kumar Roy, et.,al.,(2017)
	CE2	When using Smart Retail Technology (SRT) my attention was fully focused in using it	Sanjith Kumar Roy, et.,al.,(2017)
	CE3	I did not required help from the store staff to use SRT	Forsythe and Shi (2003)
	CE4	While using SRT I felt in control of my shopping	Sanjith Kumar Roy, et.,al.,(2017)
Customer Dynamics (CD)	CD1	Ready to spend extra attention and interest to know about new technology	Roehrich (2004)
	CD2	I already use many technology-based products and services	Kotler & Keller (2006)
	CD3	I am always open to learn and use such new technologies	Roehrich (2004)
	CD4	I am aware of this type of technology even before shopping here	(Calantone et al., 2002)
Technology Dynamics (TD)	TD1	This new SRT is interesting and simple to adopt	(Calantone et al., 2002)
	TD2	OR SRT is additional burden in shopping; no value addition	Moore and Benbasat (1991)
	TD3	Do not have any objection for Retailer collecting data about you through SRT	Van Doorn and Hoekstra (2013)

	TD4	This new Smart Retail Technology (SRT) is convenient	Moore and Benbasat (1991)
	TD5	It is easy and hassle free to use this Smart Retail Technology (SRT)	Moore and Benbasat (1991)
	TD6	OR SRT is hard to understand and use	Moore and Benbasat (1991)
Store Atmospherics (SA)	SA1	Inclusion of such SRT is value addition to the store atmospherics	Baker, et.al. (2002)
	SA2	Store atmospherics are pleasant and shopping friendly	Verhoef et al. (2009)
	SA3	Store atmospherics made me to spend more time in shopping	Verhoef et al. (2009)
Store Facilities and Services (SF)	SF1	Facilities and services in store are enhancing the shopping experience	Sanjith Kumar Roy, et.,al.,(2017)
Augmented Customer value and Delight (ACV)	ACV1	Using SRT will improve my ability to complete my shopping trip easily	Sanjith Kumar Roy, et.,al.,(2017)
	ACV2	I am now interested to use such SRT and shop at similar places more frequently	Sanjith Kumar Roy, et.,al.,(2017)
	ACV3	This new Smart Retail Technology (SRT) is very useful for my shopping	Oh et al., (2007)
	ACV4	It is fun and enjoyment using this SRT	(Schmitt, 1999)
	ACV5	SRT made me to select better products that suit my requirements in more opt way	Sanjith Kumar Roy, et.,al.,(2017)
	ACV6	SRT has resulted into great value in shopping	Chen and Dubinsky (2003)
	ACV7	SRT has offered me recommendations useful for my shopping and saved my money	Chen and Dubinsky (2003)
	ACV8	SRT has saved my time in shopping	Sanjith Kumar Roy, et.,al.,(2017)
	ACV9	SRT creates the feel of accomplishment / fulfilment in shopping	Sanjith Kumar Roy, et.,al.,(2017)
	ACV10	SRT makes the shopping more rewarding	Sanjith Kumar Roy, et.,al.,(2017)
	ACV11	SRT motivates to purchase more	Sanjith Kumar Roy, et.,al.,(2017)
Smart Customer Experience (SCX)	SCX1	Such SRT has customized the shopping experience	Verhoef et al. (2009)
	SCX2	This SRT provides me the personalized shopping experience	Gentile et al., (2007)
	SCX3	SRT makes us to feel empowered during shopping	Gentile et al., (2007)
	SCX4	SRT provides better insight about the products and services while shopping	Gentile et al., (2007)

Customer Loyalty & Advocacy (CLA)	SCX5	SRT resulted into exceeding my expectation about retail shopping experience	(Hubbert 1995; Oliver 1997)
	SCX6	My overall shopping experience is satisfactory due to SRT	(Hubbert 1995; Oliver 1997)
	CLA1	I will continue to shop here in future due to delightful shopping experience	Bloemer and Ruyter (1998), Teo (2014)
	CLA2	I will speak favourably about this SRT and store and share my experience over social media	(Berger and Schwartz, 2011).
	CLA3	I would like to recommend this store to others	Zeithaml et al. 1996; Parasuraman et al. 2005)
	CLA4	I will introduce this SRT to my family and friends and like to help them using it	Zeithaml et al. 1996; Parasuraman et al. 2005)

Tab 4.1: Items of Construct and Sources

4.15 Sampling Method

This study is about the adoption of Smart Retail Technologies by the Indian customers and the population is too large to be covered and studied. Hence a sample of the population will be selected and used for the process of data collection and analysis. Sampling is the technique of selecting a part of the population to be covered under the study. This part of the population must possess characteristics like that of the population and the sample must be representative of the entire population. Sample study can be useful for the generalization of the results obtained under the study.

In this study the **Purposive Sampling Techniques** is going to be used. As, all the individuals from the population will not fit for this study, but only those who have visited the stores using Smart Retail Technology at least once and experienced the shopping journey at such store are only suitable to be the respondents for this study.

4.16 Sample Size

This study has proposed to collect the responses from the 2000 respondents as targeted sample size. The structured questionnaire is administered to total 1362 respondents spread across various location in the cities like Hyderabad, Mumbai, Bengaluru, Kochi, Delhi etc. and the responses are collected.

After verification of all the responses, after dropping the partially filled questionnaires, in total 689 responses are being used for the final data analysis process.

Targeted respondents = 2000 No.s

Responses Received = 1362 No.s

Final Usable Responses = 689 No.s

4.17 Justification for the Sample Size

According to a previous study 5 observations per variable will be suitable to calculate the fair sample size for any social science research. In this study 39 variables are used. Hence $39 \times 5 = 195$ (Hair et.al. 2008).

Few more studies related to large population suggest the following guide sample sizes: 50 as very poor; 100 as poor, 200 as fair, 300 as good, 500 as very good and 1000 as excellent (Comrey and Lee 1992, Tabachnick & Fidell, 1996).

For the research covering large population, 10% of the targeted population is a fair sample size. This sample size must be minimum 100 and maximum 1000 is sufficient to give fairly accurate results (Ronan Conroy, 2003).

4.18 Sample Distribution across cities

Sl No	City and State	Final Usable Samples
1	Hyderabad, Telangana	346
2	Bengaluru, Karnataka	186
3	Mumbai, Maharashtra	48
4	Delhi	62
5	Kochi & Ernakulam, Kerala	47
Total		689

Tab 4.2: Sample Distribution Across Cities

4.19 Retail Store Respondents Details

Sl No.	Name of The Store	Location	City
1	PMJ Gems & Jewellers Pvt Ltd	Himayath nagar	Hyderabad
2	Shoppers Stop	Mulund	Mumbai
3	Watasale	Ernakulam	Ernakulam
4	P C Jewellers	HimayatNager	Hyderabad
5	P C Jewellers	Banjara Hills	Hyderabad
6	Decathlon	Erramanzil	Hyderabad
7	Big Bazaar GenNxt	Panjagutta	Hyderabad
8	IKEA	Madhapur	Hyderabad
9	Decathlon	Shamshabad	Hyderabad
10	Decathlon	Gachibowli	Hyderabad
11	GRT Jewellers	Panjagutta	Hyderabad
12	GRT Jewellers	Somajiguda	Hyderabad
13	Van Heusen Style Studio	IndiraNager	Bengaluru
14	Raymond Ready to Wear	100ft Road	Bengaluru
15	Hypercity	Infosys Campus	Hyderabad
16	Titan Eye Plus	HSR Layout	Bengaluru

Tab 4.3: Retail Store Respondents

4.20 Statistical Tools for Data Analysis

Following statistical tools are used via SPSS 23.0 and AMOS 20.0 for the purpose of analysis of the collected data and get the results which are interpreted for the final outcomes of this research and to verify the acceptance of various hypothesis under this study.

- I. Correlation & Regression Analysis
- II. Factor Analysis
- III. Multivariate Analysis
- IV. Chi-square Test
- V. Structural Equation Modeling

4.21 Reliability

The Cronbach alpha is used to verify the reliability of the scale used in this study and the following values of Cronbach alpha are used as reference for the reliability considerations:

S. No.	Cronbach's alpha	Internal Consistency
1	$\alpha \geq 0.9$	Excellent
2	$0.9 > \alpha \geq 0.8$	Good
3	$0.8 > \alpha \geq 0.7$	Acceptable
4	$0.7 > \alpha \geq 0.6$	Questionable
5	$\alpha < 0.5$	Not acceptable

Tab 4.4: Cronbach Alpha Recommended Values

Source: George, D., and Mallery, P. (2003)

5.0 Data Analysis and Interpretation

5.1 Data Analysis

Two separate structured questionnaires were used in this study for the purpose of data collection. One questionnaire was administered to the individuals to collect information from the customers who have experience of shopping at the store where the Smart Retail Technologies are in use. This questionnaire has 39 items apart from the demographics about the respondents. In total 689 final responses are used in this data analysis out of 1342 total responses received. The second questionnaire is used to collect the responses from the store managers of the retail outlets where the Smart Retail Technology is in use. Out of 40 to 50 such stores known to be available in India, 16 stores have been approached during the research and the responses are conducted from them for the purpose of analysis.

5.2 Pilot Study Analysis

The pilot study was conducted with 168 respondents and all the responses are used are analysed for testing the item wise reliability using Cronbach alpha. All these responses are collected from the customers of IKEA store Hyderabad. The reliability results are as follows:

Tab 5.1 Case Processing Summary

		N	%
Cases	Valid	154	91.7
	Excluded ^a	14	8.3
	Total	168	100.0

a. Listwise deletion based on all variables in the procedure.

5.3 Reliability or Internal Consistency

Reliability of the items used in this research is tested for its consistency and dependency for the measurement of the results of this study. Cronbach alpha is used to test the effective reliability of various items used in this scale and the outcome is analysed using the standard reading of Cronbach Alpha as follows.

Tab 5.2 Cronbach alpha recommended values

S. No.	Cronbach's alpha	Internal Consistency
1	$\alpha \geq 0.9$	Excellent
2	$0.9 > \alpha \geq 0.8$	Good
3	$0.8 > \alpha \geq 0.7$	Acceptable
4	$0.7 > \alpha \geq 0.6$	Questionable
5	$\alpha < 0.5$	Not acceptable

Source: George, D., and Mallery, P. (2003)

After analysis of the responses from the pilot study following results are achieved towards the testing of reliability using Cronbach alpha.

Tab 5.3 Reliability Statistics

Cronbach's Alpha	N of Items
.895	39

The above reading of Cronbach Alpha of .895 for all the 39 items clearly indicates that the reliability of all the items in the scale are in the range of good for the study. All the items are individually tested for the reliability and the results are as follows:

Tab 5.4 Item wise Statistics

	Mean	Std. Deviation	N
CE1	3.96	1.171	154
CE2	3.82	1.140	154
CE3	3.93	.742	154
CE4	3.66	.698	154
CD1	3.98	.610	154
CD2	3.95	.739	154
CD3	3.95	.712	154
CD4	4.15	.613	154
TD1	3.31	1.173	154
TD2	2.39	.992	154
TD3	3.04	1.148	154
SA1	3.88	.753	154
SA2	4.15	.655	154
SA3	4.14	.736	154
SF1	4.08	.763	154
TD4	4.16	.793	154
TD5	3.97	.859	154
TD6	2.43	1.119	154
ACV1	4.10	.613	154
ACV2	3.77	1.088	154
ACV3	4.12	.708	154
ACV4	4.12	.723	154
SCX1	4.03	.736	154
SCX2	3.96	.614	154
SCX3	3.97	.736	154
SCX4	4.10	.617	154
ACV5	3.95	.564	154
ACV6	4.06	.818	154
SCX5	3.86	.705	154
ACV7	3.34	.930	154
ACV8	3.96	.646	154
SCX6	4.15	.645	154
ACV9	3.79	.893	154
ACV10	3.90	.765	154
ACV11	3.56	.767	154
CLA1	3.73	.873	154
CLA2	3.58	.995	154
CLA3	3.94	.618	154
CLA4	3.89	.701	154

5.4 Sample Adequacy

Tab 5.5 Sample Adequacy Analysis using KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.961
Bartlett's Test of Sphericity	Approx. Chi-Square	75770.021
	df	741
	Sig.	.000

The above analysis using KMO Test gives the result of 0.961 which indicates that the sample is adequate for the analysis and the results from the analysis of the total data collected from the 689 respondents is significant to prove the termed hypothesis and the outcome of the research can be reliable and adequate.

Tab 5.6 Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
CE1	144.85	195.971	.197	.	.897
CE2	144.99	196.490	.188	.	.897
CE3	144.88	191.307	.581	.	.890
CE4	145.15	194.246	.466	.	.891
CD1	144.83	197.278	.358	.	.893
CD2	144.86	195.269	.386	.	.892
CD3	144.86	193.164	.511	.	.891
CD4	144.66	198.434	.288	.	.894
TD1	145.51	194.984	.227	.	.897
TD2	146.42	205.775	-.104	.	.902
TD3	145.77	193.981	.265	.	.896
SA1	144.94	194.440	.418	.	.892
SA2	144.66	195.428	.433	.	.892
SA3	144.67	192.890	.507	.	.891
SF1	144.73	194.367	.415	.	.892
TD4	144.66	193.103	.456	.	.891
TD5	144.84	188.315	.625	.	.889
TD6	146.38	209.440	-.213	.	.905
ACV1	144.71	193.395	.587	.	.890
ACV2	145.04	189.280	.445	.	.892
ACV3	144.69	194.203	.460	.	.891

ACV4	144.69	190.501	.640	.	.889
SCX1	144.78	190.056	.650	.	.889
SCX2	144.85	192.154	.661	.	.889
SCX3	144.84	190.525	.626	.	.889
SCX4	144.71	195.659	.448	.	.892
ACV5	144.86	194.398	.577	.	.891
ACV6	144.75	191.167	.528	.	.890
SCX5	144.95	190.912	.635	.	.889
ACV7	145.47	192.408	.407	.	.892
ACV8	144.85	195.291	.448	.	.892
SCX6	144.66	194.173	.512	.	.891
ACV9	145.03	189.973	.529	.	.890
ACV10	144.91	193.769	.443	.	.892
ACV11	145.25	195.785	.346	.	.893
CLA1	145.08	189.869	.547	.	.890
CLA2	145.23	191.919	.394	.	.892
CLA3	144.87	194.048	.543	.	.891
CLA4	144.92	191.915	.586	.	.890

Tab 5.7 Scale Statistics

Mean	Variance	Std. Deviation	N of Items
148.81	203.788	14.275	39

5.5 Descriptive Statistics of the final Data

Data collection is done from the 1342 respondents. After data screening, and primary analysis, all the partial and outlander responses are removed and final data of 689 respondents is used for the statistical analysis using Structural Equation Modelling, Path analysis, Regression correlation and Covariance analysis is performed using SPSS .23.0.

Tab 5.8 Descriptive Statistics							
		Gender	Age	Education	Occupation	Income	SRT_Used
N	Valid	689	689	689	689	689	689
	Missing	0	0	0	0	0	0
Mean		1.56					
Median		2.00					
Std. Deviation		.497					

Tab 5.9 Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	302	43.8	43.8	43.8
	Male	387	56.2	56.2	100.0
	Total	689	100.0	100.0	

Out of total 689 respondents 302 are Female and 387 are Male respondents. During interaction it was observed that few female respondents were reluctant to use certain Smart Retail technologies such as smart trial rooms and smart mirrors due to apprehension about the technology and the type of information stored in the system about them. Even significantly educated female respondents were reluctant to use the smart mirrors.

Tab 5.10 Age Distribution of the Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 to 30 Yrs	392	56.9	56.9	56.9
	30 to 40 Yrs	155	22.5	22.5	79.4
	40 to 50 Yrs	139	20.2	20.2	99.6
	Above 50 Yrs	1	.1	.1	99.7
	Less than 20Yrs	2	.3	.3	100.0
	Total	689	100.0	100.0	

Majority of respondents are between the age group of 20 to 40. This is the age group where the interest towards new technology and intention towards adoption of such advanced technology seems to be higher compared to other age group respondents.

Tab 5.11 Education Composition of the Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CA, ICWA, CS, PhD	96	13.9	13.9	13.9
	Others	28	4.1	4.1	18.0
	PG	277	40.2	40.2	58.2
	UG	288	41.8	41.8	100.0
	Total	689	100.0	100.0	

Educational qualification exerts strong impact upon adoption and use of new technology. Here in this study more than 50% of respondents are either graduates or postgraduates. This factor has shown a strong effect upon the adoption of Smart retail technologies and its outcome on the customer shopping experience.

Tab 5.12 Occupation details of the Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Govt Job	82	11.9	11.9	11.9
	IT Professional	212	30.8	30.8	42.7
	Others	6	.9	.9	43.5
	Private Job	195	28.3	28.3	71.8
	Self Employed	53	7.7	7.7	79.5
	Student	141	20.5	20.5	100.0
	Total	689	100.0	100.0	

Majority of respondents are IT professional or private employees. This may have impact upon the adoption of the technology because of the technology dynamics clearly indicate that it is easy to use a new technology for the respondents who has experience of using some other type of technology such as smart phone, health bands etc.

Tab 5.13 Income Distribution of the Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 to 15 Lakh	204	29.6	29.6	29.6
	15 to 20 Lakh	2	.3	.3	29.9
	5 to 10 Lakh	240	34.8	34.8	64.7
	Above 20 Lakh	2	.3	.3	65.0
	Not mentioned	30	4.4	4.4	69.4
	Upto 5 Lakh	211	30.6	30.6	100.0
	Total	689	100.0	100.0	

Tab 5.14 Smart Retail Technology Used at the Store					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chat bots / Smart Shopping Assistant	1	.1	.1	.1
	Interactive Displays/ Tablets	135	19.6	19.6	19.7
	Not mentioned	3	.4	.4	20.2
	Self-Checkout / Cashier-less Billing	296	43.0	43.0	63.1
	Smart Shopping Carts, Smart Shelves	5	.7	.7	63.9
	Smart Trial Rooms/ Smart Mirrors	249	36.1	36.1	100.0
	Total	689	100.0	100.0	

Tab 5.15 Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CE	689	1.25	5.00	3.7962	1.20047
CD	689	1.00	5.00	3.8519	1.06562
TD	689	1.00	5.00	3.2280	.59941
SA	689	1.00	5.00	3.9064	1.11882
SF	689	1.00	5.00	4.0711	1.29372
ACV	689	1.18	5.02	3.8609	1.13670
SCX	689	1.33	5.00	3.9380	1.10290
CLA	689	1.00	5.00	3.8664	1.09735
Valid N (listwise)	689				

Tab 5.16 Correlations									
		CE	CD	TD	SA	SF	ACV	SCX	CLA
CE	Pearson Correlation	1	.895**	.538**	.901**	.814**	.893**	.893**	.826**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	689	689	689	689	689	689	689	689
CD	Pearson Correlation	.895**	1	.599**	.909**	.886**	.914**	.914**	.827**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	689	689	689	689	689	689	689	689
TD	Pearson Correlation	.538**	.599**	1	.615**	.610**	.639**	.639**	.627**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
	N	689	689	689	689	689	689	689	689
SA	Pearson Correlation	.901**	.909**	.615**	1	.897**	.922**	.922**	.855**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	689	689	689	689	689	689	689	689
SF	Pearson Correlation	.814**	.886**	.610**	.897**	1	.887**	.887**	.829**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	689	689	689	689	689	689	689	689
ACV	Pearson Correlation	.888**	.921**	.660**	.917**	.892**	.972**	.972**	.932**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000
	N	689	689	689	689	689	689	689	689
SCX	Pearson Correlation	.893**	.914**	.639**	.922**	.887**	1	1	.914**
	Sig. (2-tailed)	.000	.000	.000	.000	.000			.000
	N	689	689	689	689	689	689	689	689
CLA	Pearson Correlation	.826**	.827**	.627**	.855**	.829**	.914**	.914**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	689	689	689	689	689	689	689	689

** . Correlation is significant at the 0.01 level (2-tailed).

5.6 Crosstab Analysis of Customer Demographics against the CEM & TD

Crosstab's analysis is used to identify the role of customer demographics such as age, gender, education, occupation etc. upon the adoption of new technology, interest in using new things, attitude towards risk taking, readiness to learn new aspects related to the retail stores as well as its role in smart customer experience management for the purpose of improving the customer delight and customer loyalty for a particular retailer.

Tab 5.17 Customer Experience * Gender Crosstabulation

		Gender		Total
		1	2	
CE1	1.0	35	36	71
	2.0	21	45	66
	3.0	10	15	25
	3.8	0	2	2
	4.0	118	150	268
	5.0	118	139	257
Total		302	387	689
CE2	1.0	18	24	42
	2.0	35	59	94
	3.0	18	17	35
	3.9	1	0	1
	4.0	101	126	227
	5.0	129	161	290
Total		302	387	689
CE3	1.0	22	42	64
	2.0	21	33	54
	3.0	26	31	57
	4.0	125	161	286
	5.0	108	120	228
Total		302	387	689
CE4	1.0	39	69	108
	2.0	11	23	34
	3.0	32	41	73
	3.6	0	1	1
	4.0	120	150	270
	5.0	100	103	203
Total		302	387	689

Tab 5.18 Customer Experience * Age Crosstabulation

		Age					Total
		20 to 30 Yrs	30 to 40 Yrs	40 to 50 Yrs	Above 50 Yrs	Less than 20Yrs	
CE1	1.0	25	45	0	0	1	71
	2.0	1	1	64	0	0	66
	3.0	17	6	2	0	0	25
	3.8	1	0	1	0	0	2
	4.0	193	68	6	1	0	268
	5.0	155	35	66	0	1	257
Total		392	155	139	1	2	689
CE2	1.0	21	0	21	0	0	42
	2.0	5	44	44	0	1	94
	3.0	32	3	0	0	0	35
	3.9	1	0	0	0	0	1
	4.0	143	76	7	1	0	227
	5.0	190	32	67	0	1	290
Total		392	155	139	1	2	689
CE3	1.0	2	1	61	0	0	64
	2.0	8	43	3	0	0	54
	3.0	36	15	5	1	0	57
	4.0	219	63	4	0	0	286
	5.0	127	33	66	0	2	228
Total		392	155	139	1	2	689
CE4	1.0	2	42	64	0	0	108
	2.0	23	8	3	0	0	34
	3.0	67	4	2	0	0	73
	3.6	1	0	0	0	0	1
	4.0	192	52	23	1	2	270
	5.0	107	49	47	0	0	203
Total		392	155	139	1	2	689

Tab 5.19 Customer Experience * Education Crosstabulation

		Education				Total
		CA, ICWA, CS, PhD	Others	PG	UG	
CE1	1.0	4	1	23	43	71
	2.0	0	22	1	43	66
	3.0	3	1	18	3	25
	3.8	0	0	2	0	2
	4.0	40	4	106	118	268
	5.0	49	0	127	81	257
Total		96	28	277	288	689
CE2	1.0	0	22	20	0	42
	2.0	1	2	5	86	94
	3.0	1	1	28	5	35
	3.9	0	0	0	1	1
	4.0	46	3	100	78	227
	5.0	48	0	124	118	290
Total		96	28	277	288	689
CE3	1.0	0	22	2	40	64
	2.0	1	2	5	46	54
	3.0	3	1	50	3	57
	4.0	64	3	101	118	286
	5.0	28	0	119	81	228
Total		96	28	277	288	689
CE4	1.0	0	22	2	84	108
	2.0	3	0	9	22	34
	3.0	20	2	47	4	73
	3.6	0	0	1	0	1
	4.0	41	4	93	132	270
	5.0	32	0	125	46	203
Total		96	28	277	288	689

Tab 5.20 Technology Dynamics * Gender Crosstabulation

		Gender		Total
		1	2	
TD1	1.0	31	52	83
	2.0	62	94	156
	3.0	26	34	60
	4.0	87	87	174
	5.0	96	120	216
Total		302	387	689
TD2	1.0	137	162	299
	2.0	84	112	196
	3.0	20	19	39
	4.0	35	56	91
	5.0	26	38	64
Total		302	387	689
TD3	1.0	28	45	73
	2.0	59	81	140
	3.0	27	28	55
	4.0	131	174	305
	5.0	57	59	116
Total		302	387	689
TD4	1.0	25	39	64
	2.0	23	40	63
	3.0	14	25	39
	4.0	1	1	2
	4.0	79	97	176
	5.0	160	185	345
Total		302	387	689
TD5	1.0	39	66	105
	2.0	8	16	24
	3.0	27	35	62
	4.0	82	99	181
	5.0	146	171	317
Total		302	387	689
TD6	1.0	115	147	262
	2.0	66	82	148
	3.0	17	19	36
	4.0	41	49	90
	5.0	63	90	153
Total		302	387	689

Tab 5.21 Technology Dynamics * Age Crosstabulation

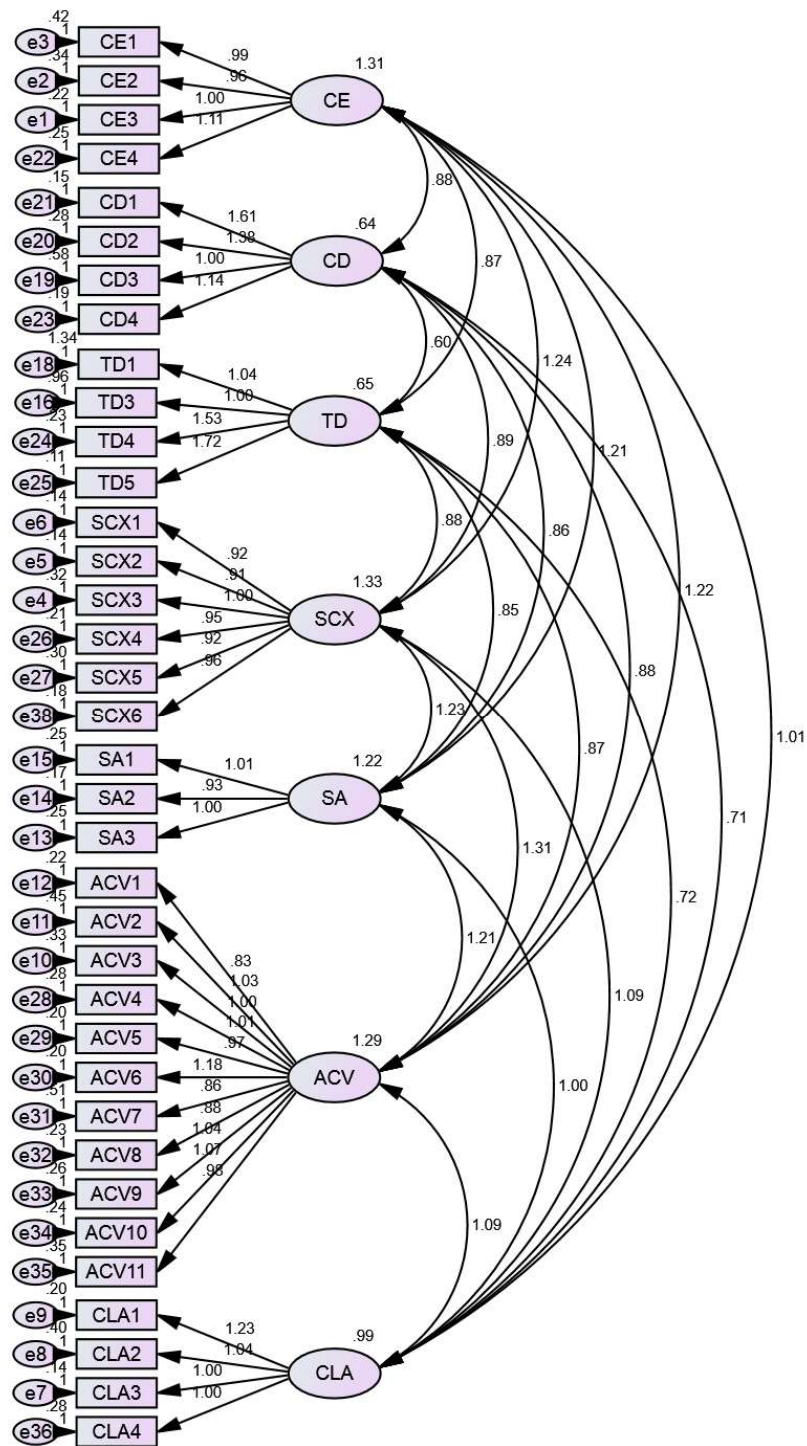
		Age					Total
		20 to 30 Yrs	30 to 40 Yrs	40 to 50 Yrs	Above 50 Yrs	Less than 20Yrs	
TD1	1.0	23	20	40	0	0	83
	2.0	45	48	63	0	0	156
	3.0	54	6	0	0	0	60
	4.0	126	39	7	1	1	174
	5.0	144	42	29	0	1	216
	Total	392	155	139	1	2	689
TD2	1.0	196	34	68	0	1	299
	2.0	130	40	26	0	0	196
	3.0	25	12	0	1	1	39
	4.0	37	10	44	0	0	91
	5.0	4	59	1	0	0	64
	Total	392	155	139	1	2	689
TD3	1.0	26	44	3	0	0	73
	2.0	45	31	64	0	0	140
	3.0	48	3	2	1	1	55
	4.0	250	31	24	0	0	305
	5.0	23	46	46	0	1	116
	Total	392	155	139	1	2	689
TD4	1.0	2	1	60	0	1	64
	2.0	16	43	4	0	0	63
	3.0	36	3	0	0	0	39
	4.0	0	2	0	0	0	2
	4.0	119	28	28	1	0	176
	5.0	219	78	47	0	1	345
	Total	392	155	139	1	2	689
TD5	1.0	1	43	61	0	0	105
	2.0	19	1	3	0	1	24
	3.0	56	4	1	1	0	62
	4.0	131	42	8	0	0	181
	5.0	185	65	66	0	1	317
	Total	392	155	139	1	2	689
TD6	1.0	192	15	55	0	0	262
	2.0	95	44	8	0	1	148
	3.0	28	7	0	1	0	36
	4.0	70	15	5	0	0	90
	5.0	7	74	71	0	1	153
	Total	392	155	139	1	2	689

Tab 5.22 Technology Dynamics * Education
Crosstabulation

		Education				Total
		CA, ICWA, CS, PhD	Others	PG	UG	
TD1	1.0	19	1	22	41	83
	2.0	37	24	12	83	156
	3.0	20	0	37	3	60
	4.0	10	3	91	70	174
	5.0	10	0	115	91	216
	Total	96	28	277	288	689
TD2	1.0	50	23	104	122	299
	2.0	36	1	85	74	196
	3.0	6	1	27	5	39
	4.0	2	3	41	45	91
	5.0	2	0	20	42	64
	Total	96	28	277	288	689
TD3	1.0	25	0	5	43	73
	2.0	4	24	32	80	140
	3.0	3	1	44	7	55
	4.0	36	2	110	157	305
	5.0	28	1	86	1	116
	Total	96	28	277	288	689
TD4	1.0	0	22	1	41	64
	2.0	1	2	0	60	63
	3.0	15	1	20	3	39
	4.0	1	0	1	0	2
	4.0	12	3	118	43	176
	5.0	67	0	137	141	345
	Total	96	28	277	288	689
TD5	1.0	0	22	1	82	105
	2.0	0	2	3	19	24
	3.0	16	2	42	2	62
	4.0	32	2	121	26	181
	5.0	48	0	110	159	317
	Total	96	28	277	288	689
TD6	1.0	39	0	100	123	262
	2.0	38	1	50	59	148
	3.0	5	3	24	4	36
	4.0	5	2	63	20	90
	5.0	9	22	40	82	153
	Total	96	28	277	288	689

5.7 Confirmatory Factor Analysis

Fig. 5.1 CFA Model Fit



Tab 5.23 Regression Weights of Smart CEM: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
CE3	<---	CE	1.000				
CE2	<---	CE	.965	.025	38.597	***	
CE1	<---	CE	.987	.027	36.631	***	
SCX3	<---	SCX	1.000				
SCX2	<---	SCX	.906	.021	42.895	***	
SCX1	<---	SCX	.916	.021	42.911	***	
CLA3	<---	CLA	1.000				
CLA2	<---	CLA	1.044	.029	35.889	***	
CLA1	<---	CLA	1.227	.025	48.912	***	
ACV3	<---	ACV	1.000				
ACV2	<---	ACV	1.032	.030	34.154	***	
ACV1	<---	ACV	.834	.023	36.870	***	
SA3	<---	SA	1.000				
SA2	<---	SA	.934	.022	42.463	***	
SA1	<---	SA	1.009	.025	40.457	***	
TD3	<---	TD	1.000				
TD1	<---	TD	1.036	.074	14.071	***	
CD3	<---	CD	1.000				
CD2	<---	CD	1.377	.057	24.260	***	
CD1	<---	CD	1.605	.062	25.906	***	
CE4	<---	CE	1.111	.024	45.389	***	
CD4	<---	CD	1.142	.047	24.323	***	
TD4	<---	TD	1.527	.075	20.322	***	
TD5	<---	TD	1.716	.082	20.911	***	
SCX4	<---	SCX	.955	.023	40.654	***	
SCX5	<---	SCX	.922	.025	36.795	***	
ACV4	<---	ACV	1.010	.026	38.166	***	
ACV5	<---	ACV	.965	.024	40.275	***	
ACV6	<---	ACV	1.178	.027	43.009	***	
ACV7	<---	ACV	.862	.029	29.492	***	
ACV8	<---	ACV	.877	.023	37.556	***	
ACV9	<---	ACV	1.044	.027	39.177	***	
ACV10	<---	ACV	1.074	.027	40.384	***	
ACV11	<---	ACV	.979	.028	35.477	***	
CLA4	<---	CLA	1.002	.025	39.382	***	
SCX6	<---	SCX	.955	.023	41.783	***	

**Tab 5.24 Standardized Regression Weights of Smart CEM:
(Group number 1 - Default model)**

	Estimate
CE3 <--- CE	.926
CE2 <--- CE	.885
CE1 <--- CE	.868
SCX3 <--- SCX	.898
SCX2 <--- SCX	.941
SCX1 <--- SCX	.941
CLA3 <--- CLA	.937
CLA2 <--- CLA	.853
CLA1 <--- CLA	.939
ACV3 <--- ACV	.892
ACV2 <--- ACV	.868
ACV1 <--- ACV	.896
SA3 <--- SA	.910
SA2 <--- SA	.928
SA1 <--- SA	.913
TD3 <--- TD	.637
TD1 <--- TD	.586
CD3 <--- CD	.723
CD2 <--- CD	.901
CD1 <--- CD	.958
CE4 <--- CE	.932
CD4 <--- CD	.903
TD4 <--- TD	.931
TD5 <--- TD	.972
SCX4 <--- SCX	.924
SCX5 <--- SCX	.890
ACV4 <--- ACV	.908
ACV5 <--- ACV	.927
ACV6 <--- ACV	.948
ACV7 <--- ACV	.809
ACV8 <--- ACV	.903
ACV9 <--- ACV	.918
ACV10 <--- ACV	.928
ACV11 <--- ACV	.882
CLA4 <--- CLA	.882
SCX6 <--- SCX	.933

Tab 5.25 Analysis of Smart SEM using Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CE <--> CD	.884	.060	14.694	***	
CE <--> TD	.870	.065	13.409	***	
CE <--> SCX	1.243	.076	16.414	***	
CE <--> SA	1.215	.073	16.644	***	
CE <--> ACV	1.219	.075	16.334	***	
CE <--> CLA	1.009	.062	16.222	***	
TD <--> CD	.602	.049	12.214	***	
SCX <--> CD	.886	.061	14.510	***	
SA <--> CD	.864	.059	14.661	***	
ACV <--> CD	.879	.061	14.518	***	
CLA <--> CD	.706	.049	14.287	***	
SCX <--> TD	.879	.066	13.302	***	
SA <--> TD	.847	.063	13.369	***	
ACV <--> TD	.865	.065	13.278	***	
CLA <--> TD	.718	.054	13.237	***	
SCX <--> SA	1.234	.075	16.485	***	
SCX <--> ACV	1.307	.079	16.569	***	
ACV <--> SA	1.205	.074	16.378	***	
CLA <--> SA	1.004	.061	16.338	***	
CLA <--> ACV	1.089	.065	16.657	***	
SCX <--> CLA	1.085	.066	16.554	***	

Tab 5.26 Correlations Analysis of Customer Responses for Smart CEM: (Group number 1 - Default model)

	Estimate
CE <--> CD	.965
CE <--> TD	.940
CE <--> SCX	.941
CE <--> SA	.960
CE <--> ACV	.938
CE <--> CLA	.888
TD <--> CD	.930
SCX <--> CD	.960
SA <--> CD	.977
ACV <--> CD	.967
CLA <--> CD	.889
SCX <--> TD	.942
SA <--> TD	.948
ACV <--> TD	.942
CLA <--> TD	.895
SCX <--> SA	.968
SCX <--> ACV	.998
ACV <--> SA	.960
CLA <--> SA	.915
CLA <--> ACV	.966
SCX <--> CLA	.948

Tab 5.27 Item wise Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CE	1.311	.082	15.983	***	
SCX	1.331	.087	15.216	***	
CLA	.986	.060	16.314	***	
ACV	1.289	.086	15.052	***	
SA	1.223	.079	15.501	***	
TD	.654	.071	9.259	***	
CD	.640	.058	10.960	***	
e1	.217	.015	14.922	***	
e2	.338	.021	16.430	***	
e3	.417	.025	16.760	***	
e4	.319	.018	17.672	***	
e5	.142	.008	16.837	***	
e6	.144	.009	16.833	***	
e7	.138	.010	14.351	***	
e8	.402	.024	17.034	***	
e9	.198	.014	14.138	***	
e10	.332	.018	18.049	***	
e11	.451	.025	18.161	***	
e12	.220	.012	18.024	***	
e13	.255	.016	15.957	***	
e14	.171	.011	15.031	***	
e15	.247	.016	15.811	***	
e16	.956	.053	18.181	***	
e18	1.343	.074	18.268	***	
e19	.584	.032	18.117	***	
e20	.281	.017	16.740	***	
e21	.148	.011	13.126	***	
e22	.246	.017	14.575	***	
e23	.188	.011	16.689	***	
e24	.233	.016	14.678	***	
e25	.111	.013	8.399	***	
e26	.208	.012	17.291	***	
e27	.297	.017	17.751	***	
e28	.278	.016	17.936	***	
e29	.197	.011	17.744	***	
e30	.200	.012	17.329	***	
e31	.505	.028	18.311	***	
e32	.225	.013	17.980	***	
e33	.264	.015	17.853	***	
e34	.240	.014	17.731	***	
e35	.353	.019	18.101	***	
e36	.283	.017	16.556	***	
e38	.182	.011	17.088	***	

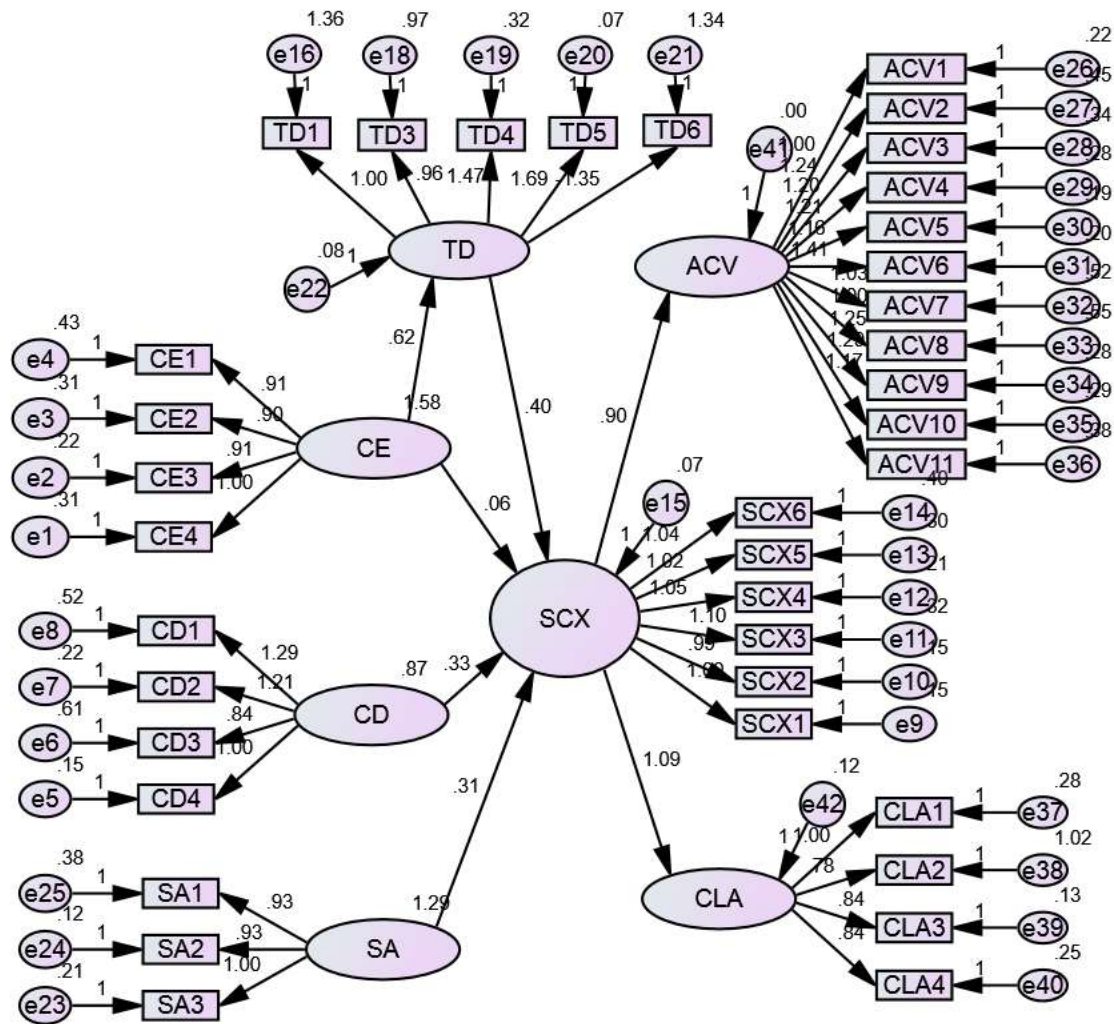
Tab 5.28 Total Variance Explained for Smart CEM

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	26.601	68.209	68.209	26.601	68.209	68.209
2	1.526	3.913	72.121	1.526	3.913	72.121
3	1.132	2.903	75.024	1.132	2.903	75.024
4	.985	2.525	77.548			
5	.840	2.154	79.703			
6	.698	1.791	81.494			
7	.580	1.488	82.981			
8	.556	1.426	84.408			
9	.517	1.324	85.732			
10	.450	1.155	86.887			
11	.407	1.043	87.930			
12	.381	.976	88.906			
13	.354	.907	89.813			
14	.338	.867	90.680			
15	.321	.823	91.503			
16	.280	.717	92.220			
17	.266	.681	92.902			
18	.244	.625	93.527			
19	.239	.612	94.139			
20	.215	.552	94.691			
21	.209	.535	95.226			
22	.190	.487	95.713			
23	.177	.455	96.168			
24	.155	.398	96.566			
25	.150	.383	96.949			
26	.134	.343	97.292			
27	.130	.334	97.627			
28	.120	.307	97.934			
29	.113	.291	98.225			
30	.106	.273	98.498			
31	.093	.239	98.736			
32	.084	.217	98.953			
33	.076	.195	99.148			
34	.071	.182	99.331			
35	.069	.178	99.509			
36	.065	.166	99.674			
37	.049	.127	99.801			
38	.043	.109	99.910			
39	.035	.090	100.000			

Extraction Method: Principal Component Analysis.

5.8 Structural Equation Model (SEM)

Fig.5.2 SEM Model of the Study



Analysis using SEM has indicated that the two variables named Store Atmospherics (SA) and the Store Facilities (SF) have shown the linear correlation. The CFA results for the regression correlation is low i.e., 0.5 for the Store Facilities (SF). Hence after initial data analysis this variable is removed, and the construct is modified for the better fit of the model under this study. This may have happened due to the confusion of the respondents as Store Atmospherics (SA) and Store Facilities (SF) to be the similar items of the study.

**Tab 5.29 Regression Weights of variables under Smart CEM Model: (Group number 1
- Default model)**

			Estimate	S.E.	C.R.	P	Label
TD	<---	CE	.620	.037	16.941	***	
SCX	<---	CE	.062	.036	1.720	.085	
SCX	<---	CD	.335	.016	21.466	***	
SCX	<---	TD	.405	.059	6.868	***	
SCX	<---	SA	.307	.013	23.281	***	
ACV	<---	SCX	.901	.034	26.862	***	
CLA	<---	SCX	1.094	.043	25.394	***	
CE4	<---	CE	1.000				
CE3	<---	CE	.911	.022	41.735	***	
CE2	<---	CE	.897	.024	38.108	***	
CE1	<---	CE	.912	.026	35.268	***	
CD4	<---	CD	1.000				
CD3	<---	CD	.839	.036	23.322	***	
CD2	<---	CD	1.210	.030	40.832	***	
CD1	<---	CD	1.287	.038	34.024	***	
SCX1	<---	SCX	1.000				
SCX2	<---	SCX	.988	.031	31.412	***	
SCX3	<---	SCX	1.098	.040	27.193	***	
SCX4	<---	SCX	1.045	.035	29.741	***	
SCX5	<---	SCX	1.019	.039	26.333	***	
SCX6	<---	SCX	1.042	.043	24.264	***	
TD1	<---	TD	1.000				
TD3	<---	TD	.964	.070	13.859	***	
TD4	<---	TD	1.470	.084	17.507	***	
TD5	<---	TD	1.691	.093	18.208	***	
TD6	<---	TD	-1.350	.091	-14.851	***	
SA3	<---	SA	1.000				
SA2	<---	SA	.933	.020	45.904	***	
SA1	<---	SA	.927	.026	35.306	***	
ACV1	<---	ACV	1.000				
ACV2	<---	ACV	1.237	.057	21.830	***	
ACV3	<---	ACV	1.197	.052	23.198	***	
ACV4	<---	ACV	1.213	.049	24.552	***	
ACV5	<---	ACV	1.163	.044	26.193	***	
ACV6	<---	ACV	1.414	.051	27.738	***	
ACV7	<---	ACV	1.034	.056	18.614	***	
ACV8	<---	ACV	.998	.056	17.823	***	
ACV9	<---	ACV	1.248	.050	24.886	***	
ACV10	<---	ACV	1.286	.052	24.901	***	
ACV11	<---	ACV	1.172	.053	22.263	***	
CLA1	<---	CLA	1.000				
CLA2	<---	CLA	.779	.053	14.582	***	
CLA3	<---	CLA	.837	.029	28.845	***	
CLA4	<---	CLA	.841	.033	25.243	***	

Tab 5.30 Standardized Regression Weights: (Group number 1 - Default model)

		Estimate
TD	<--- CE	.938
SCX	<--- CE	.116
SCX	<--- CD	.463
SCX	<--- TD	.497
SCX	<--- SA	.518
ACV	<--- SCX	1.005
CLA	<--- SCX	.906
CE4	<--- CE	.914
CE3	<--- CE	.924
CE2	<--- CE	.895
CE1	<--- CE	.869
CD4	<--- CD	.924
CD3	<--- CD	.708
CD2	<--- CD	.924
CD1	<--- CD	.858
SCX1	<--- SCX	.866
SCX2	<--- SCX	.862
SCX3	<--- SCX	.797
SCX4	<--- SCX	.838
SCX5	<--- SCX	.782
SCX6	<--- SCX	.744
TD1	<--- TD	.580
TD3	<--- TD	.630
TD4	<--- TD	.907
TD5	<--- TD	.982
TD6	<--- TD	-.695
SA3	<--- SA	.928
SA2	<--- SA	.952
SA1	<--- SA	.862
ACV1	<--- ACV	.790
ACV2	<--- ACV	.744
ACV3	<--- ACV	.779
ACV4	<--- ACV	.813
ACV5	<--- ACV	.852
ACV6	<--- ACV	.887
ACV7	<--- ACV	.654
ACV8	<--- ACV	.631
ACV9	<--- ACV	.821
ACV10	<--- ACV	.821
ACV11	<--- ACV	.755
CLA1	<--- CLA	.838
CLA2	<--- CLA	.532
CLA3	<--- CLA	.881
CLA4	<--- CLA	.808

Tab 5.31 Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
CE	1.576	.101	15.578	***	
CD	.874	.056	15.720	***	
SA	1.292	.081	15.885	***	
e22	.083	.012	6.989	***	
e15	.068	.006	11.337	***	
e41	-.004	.002	-2.060	.039	
e42	.120	.013	9.090	***	
e1	.310	.021	14.520	***	
e2	.223	.016	13.897	***	
e3	.314	.020	15.370	***	
e4	.426	.026	16.136	***	
e5	.150	.013	11.458	***	
e6	.611	.035	17.405	***	
e7	.218	.019	11.406	***	
e8	.518	.034	15.276	***	
e9	.153	.009	17.246	***	
e10	.154	.009	17.289	***	
e11	.315	.018	17.806	***	
e12	.211	.012	17.533	***	
e13	.300	.017	17.878	***	
e14	.400	.022	18.025	***	
e16	1.359	.074	18.310	***	
e18	.973	.053	18.237	***	
e19	.319	.020	15.751	***	
e20	.071	.013	5.252	***	
e21	1.342	.074	18.098	***	
e23	.209	.018	11.731	***	
e24	.116	.013	8.672	***	
e25	.383	.024	15.687	***	
e26	.220	.012	17.843	***	
e27	.454	.025	18.028	***	
e28	.340	.019	17.894	***	
e29	.276	.016	17.717	***	
e30	.187	.011	17.403	***	
e31	.199	.012	16.919	***	
e32	.525	.029	18.237	***	
e33	.553	.030	18.273	***	
e34	.276	.016	17.664	***	
e35	.292	.017	17.661	***	
e36	.380	.021	17.990	***	
e37	.283	.019	14.796	***	
e38	1.021	.057	17.938	***	
e39	.135	.010	12.934	***	
e40	.251	.016	15.578	***	

Tab 5.32 Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
TD	.880
SCX	.851
CLA	.821
ACV	1.011
CLA4	.652
CLA3	.776
CLA2	.283
CLA1	.701
ACV11	.570
ACV10	.675
ACV9	.674
ACV8	.398
ACV7	.428
ACV6	.787
ACV5	.726
ACV4	.661
ACV3	.607
ACV2	.553
ACV1	.624
SA1	.743
SA2	.907
SA3	.861
TD6	.483
TD5	.965
TD4	.823
TD3	.397
TD1	.336
SCX6	.554
SCX5	.612
SCX4	.702
SCX3	.636
SCX2	.743
SCX1	.749
CD1	.736
CD2	.854
CD3	.501
CD4	.853
CE1	.755
CE2	.801
CE3	.854
CE4	.836

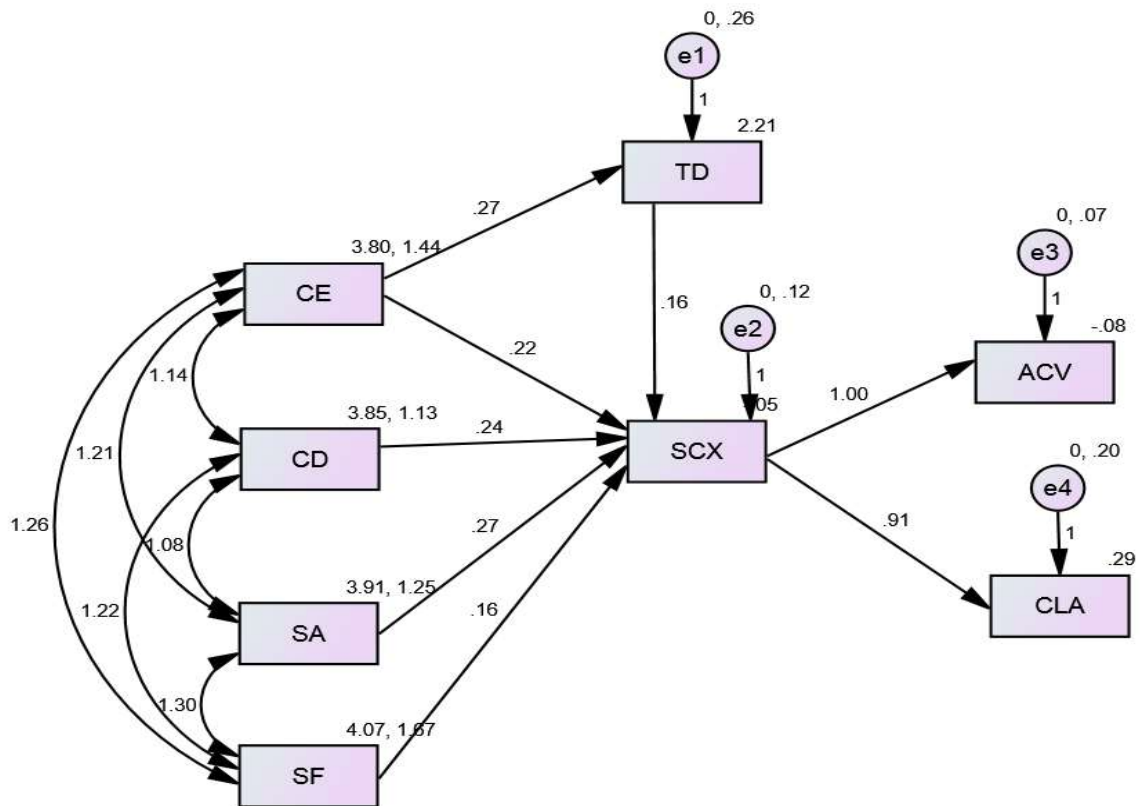
Tab 5.33 Multicollinearity Statistics for the dependent variable of Smart CEM

		Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.508	.095		5.335	.000		
	CE1	-.135	.025	-.156	-5.391	.000	.101	9.855
	CE2	.060	.029	.067	2.059	.040	.081	12.328
	CE3	-.009	.028	-.010	-.308	.758	.088	11.423
	CE4	.005	.028	.006	.176	.860	.072	13.816
	CD1	.146	.031	.175	4.751	.000	.063	15.895
	CD2	-.164	.025	-.179	-6.571	.000	.115	8.666
	CD3	.051	.017	.050	2.950	.003	.297	3.369
	CD4	-.171	.032	-.154	-5.350	.000	.103	9.694
	TD1	-.085	.013	-.109	-6.422	.000	.298	3.361
	TD2	.012	.014	.014	.866	.387	.308	3.246
	TD3	.049	.016	.055	3.053	.002	.259	3.861
	SA1	.014	.026	.015	.529	.597	.105	9.548
	SA2	.266	.031	.264	8.728	.000	.093	10.758
	SA3	.008	.025	.009	.320	.749	.119	8.398
	SF3	-.004	.030	-.004	-.118	.906	.072	13.933
	TD4	-.023	.029	-.027	-.805	.421	.073	13.667
	TD5	.061	.035	.078	1.755	.080	.044	22.904
	TD6	-.013	.013	-.018	-1.016	.310	.260	3.850
	ACV1	.077	.029	.073	2.619	.009	.111	9.005
	ACV2	-.026	.026	-.032	-1.036	.301	.090	11.052
	ACV3	-.113	.033	-.128	-3.385	.001	.059	16.869
	ACV4	.385	.033	.432	11.684	.000	.062	16.081
	ACV5	.203	.026	.214	7.876	.000	.115	8.669
	ACV6	.118	.032	.148	3.658	.000	.052	19.281
	ACV7	-.019	.024	-.021	-.796	.426	.124	8.060
	ACV8	-.037	.027	-.037	-1.372	.171	.119	8.424
	ACV9	.214	.034	.246	6.258	.000	.055	18.209
	ACV10	-.110	.036	-.129	-3.074	.002	.048	20.683
	ACV11	-.020	.026	-.023	-.796	.426	.102	9.800
	CLA1	.003	.033	.003	.078	.937	.058	17.095
	CLA2	.071	.021	.077	3.431	.001	.170	5.874
	CLA3	.049	.033	.047	1.494	.136	.088	11.384
	CLA4	.021	.031	.021	.698	.485	.090	11.064

a. Dependent Variable: SCX1

5.9 Path Diagram

Fig.5.3 Smart CEM Mediation Path Diagram of Study



The result in the above path diagram using the mediation analysis describe the role of Smart Customer Experience towards the mediation between the independent and dependent variables. The mediation results of 1 for the hypothesis H9 and .9 for the hypothesis H10 indicate the strong mediating role of smart customer experience. It has proved that the Smart Customer Experience has significant impact upon customer satisfaction, loyalty, and customer advocacy as well as it results into better customer value and customer benefits.

Tab 5.34 Regression Weights for the Mediation Analysis: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
TD <--- CE	.269	.016	16.731	***	
SCX <--- CE	.218	.029	7.445	***	
SCX <--- CD	.243	.036	6.722	***	
SCX <--- SA	.271	.037	7.345	***	
SCX <--- SF	.157	.025	6.174	***	
SCX <--- TD	.165	.026	6.279	***	
ACV <--- SCX	1.002	.009	107.490	***	
CLA <--- SCX	.909	.016	58.507	***	

The moderation analysis also suggests that the technology dynamics with the C.R. 16.731 has very strong and significant impact upon the smart customer experience generated from the use of various smart retail technologies used by the retailers in various sectors. Technology dynamics has shown a significant moderating impact smart customer experience which in turn shows significant impact upon the overall customer value delivery process generating the greater customer satisfaction, stronger customer loyalty and enhanced customer advocacy.

5.10 Analysis of Retailers' Responses (2nd Questionnaire)

The search from various sources has revealed that there are approximately 45 to 50 retail stores are available in India who have introduced the Smart Retail Technologies into their stores to enhance the shopping experience of the customers and deliver higher value to these customers during their entire shopping journey.

In this study 16 such retailers have been approached and the responses given by the store managers are collected by using the structured questionnaire. These responses are analysed using the SPSS 23.0 statistical software and the results are extracted for the purpose of testing the hypothesis H11 and hypothesis H12. Statistical tools like one sample T test, Chi -square test, factor analysis and variance analysis is used to analyse all the responses received for the retailers.

Tab 5.35 One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
SRT has helped the store to increase the involvement of customers in various store functions	16	4.25	.775	.194
Presence of Smart Retail technology (SRT) has increased Customer Satisfaction	16	4.69	.602	.151
Presence of Smart Retail technology (SRT) has increased Customer Engagement	16	4.69	.479	.120
Presence of Smart Retail technology (SRT) has improved Customer Experience	16	4.63	.619	.155
Implementation of SRT is easy and hassle-free	16	3.81	1.167	.292
Customers are comfortable and happy to use SRT in store	16	4.25	.577	.144
SRT has enhanced Customer Loyalty	16	4.44	.512	.128
SRT has strengthened the Customer Advocacy	16	4.19	.834	.209
Presence of SRT results into higher employee productivity	16	4.06	.443	.111
SRT has resulted into achieving better store performance	16	4.56	.512	.128
Smart Customer experience through SRT has helped the store to achieve higher profitability	16	4.31	.602	.151
Smart Customer experience through SRT has strong impact on customer Satisfaction & Loyalty	16	4.31	.602	.151
SRT is a powerful tool for enriching the customer shopping experience	16	4.56	.512	.128

Tab 5.36 One-Sample T Test

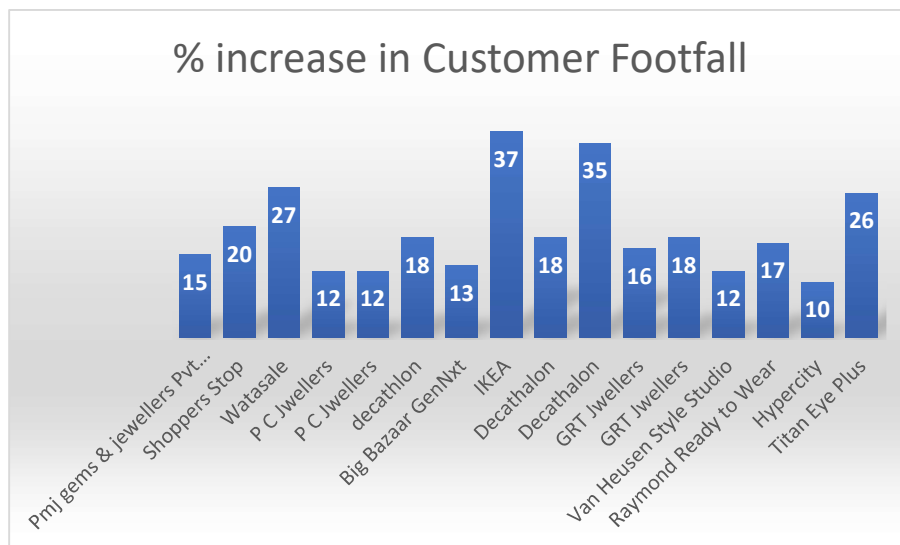
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
SRT has helped the store to increase the involvement of customers in various store functions	21.947	15	.000	4.250	3.84	4.66
Presence of Smart Retail technology (SRT) has increased Customer Satisfaction	31.142	15	.000	4.688	4.37	5.01
Presence of Smart Retail technology (SRT) has increased Customer Engagement	39.167	15	.000	4.688	4.43	4.94
Presence of Smart Retail technology (SRT) has improved Customer Experience	29.880	15	.000	4.625	4.30	4.95
Implementation of SRT is easy and hassle-free	13.065	15	.000	3.813	3.19	4.43
Customer are comfortable and happy to use SRT in store	29.445	15	.000	4.250	3.94	4.56
SRT has enhanced Customer Loyalty	34.644	15	.000	4.438	4.16	4.71
SRT has strengthened the Customer Advocacy	20.080	15	.000	4.188	3.74	4.63
Presence of SRT results into higher employee productivity	36.721	15	.000	4.063	3.83	4.30
SRT has resulted into achieving better store performance	35.620	15	.000	4.563	4.29	4.84
Smart Customer experience through SRT has helped the store to achieve higher profitability	28.651	15	.000	4.313	3.99	4.63
Smart Customer experience through SRT has strong impact on customer Satisfaction & Loyalty	28.651	15	.000	4.313	3.99	4.63
SRT is a powerful tool for enriching the customer shopping experience	35.620	15	.000	4.563	4.29	4.84

Tab 5.37 Estimated Distribution Parameters

	% Increase in Customer Footfall	% Increase in Store sales	% Increase in Revenues	% Increase in Profitability of Store
Normal Distribution Location	19.125	13.625	11.000	9.188
Scale	8.1230	5.7489	3.8297	5.4310

The cases are unweighted.

Chart 5.1 Increase in Customer Footfall due to SRT



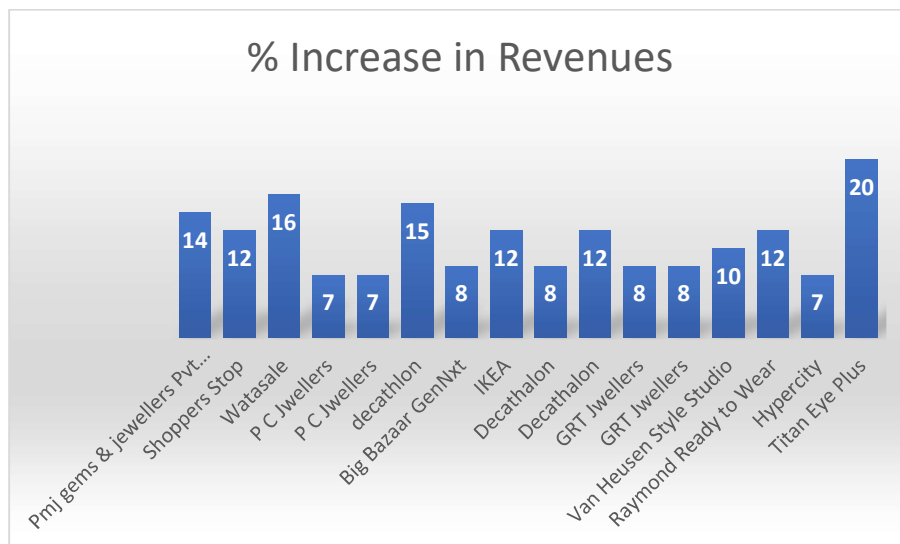
The above analysis clearly indicates that the customers are very much interested to use the smart retail technologies and it has led to increase in footfall of the customers for the stores. This change is observed by the stores after implementation of smart retail technology in the store. This improvement in the customer footfall may be because of satisfied customers repeated visit to the store as well as recommendations given to the family and friends resulting into more referral customers.

Chart 5.2 Increase in Store Sales due to SRT



According to the information shared by the store managers, the presence of SRT has empowered the customers to make better product choices and more impulse buying as well. It is has resulted into higher sales per customer in many customers visiting the store and achieving delightful shopping experience due to the SRT present in the store.

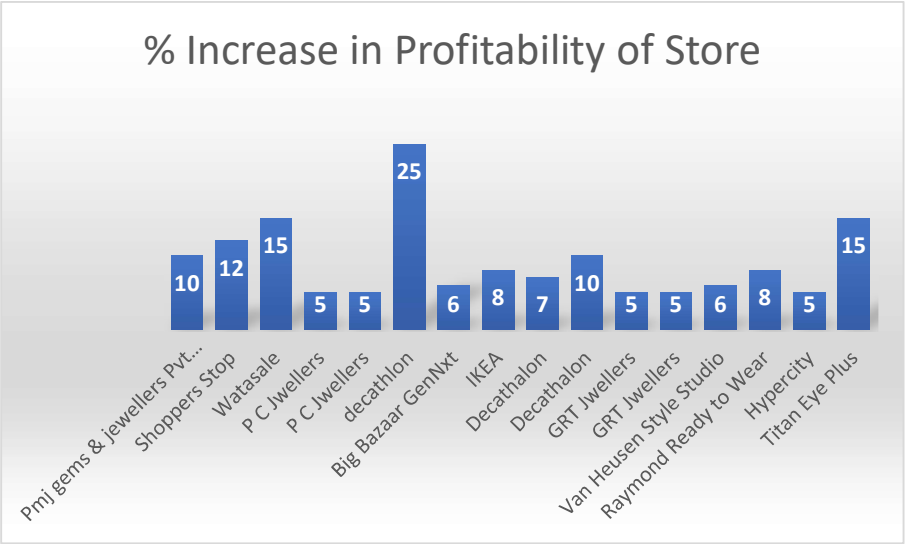
Chart 5.3 Increase in Store Revenue due to SRT



SRT has helped the store in not only increasing the per customer sales by extending the customer shopping basket viz up-sale and cross-sale but also it is helpful for the store in increasing the overall all revenue of the stores through improving the customer loyalty resulting into repeat purchase. Also, the fun and enjoyment experienced by the customers during their

shopping visit resulting into improved customer advocacy leading to more referral customers visiting such store for getting new shopping experience.

Chart 5.4 Increase in Store Profitability due to SRT



It has been observed by the retailers that presence of SRT in the store not only resulted into increase in the stores revenue but also helped the stores in cost reduction up certain extent by lesser billing counters, less personal shoppers, improved inventory management, and proper tracking of the merchandise. This has helped the retail stores to improve their overall business profitability which has seen as boon in the present competitive retail ecosystem by the store managers and the staff.

5.11 Factor Analysis of the 2nd Questionnaire

Tab 5.38 Communalities

	Initial	Extraction
It is easy to adopt new Smart Retail Technology (SRT) in store	1.000	.899
Training the staff and customers about SRT is easy and beneficial for the store	1.000	.872
SRT is useful for both, the store operations as well as the customers	1.000	.958
SRT has ensured smooth and seamless functioning of the store	1.000	.958
Implementation of SRT needs many changes in store atmospherics.	1.000	.919
SRT has helped the store to increase the involvement of customers in various store functions	1.000	.937
Presence of Smart Retail technology (SRT) has increased Customer Satisfaction	1.000	.910
Presence of Smart Retail technology (SRT) has increased Customer Engagement	1.000	.881
Presence of Smart Retail technology (SRT) has improved Customer Experience	1.000	.917
Implementation of SRT is easy and hassle-free	1.000	.900
Customers are comfortable and happy to use SRT in store	1.000	.951
SRT has enhanced Customer Loyalty	1.000	.954
SRT has strengthened the Customer Advocacy	1.000	.890
Presence of SRT results into higher employee productivity	1.000	.621
SRT has resulted into achieving better store performance	1.000	.770
Smart Customer experience through SRT has helped the store to achieve higher profitability	1.000	.878
Smart Customer experience through SRT has strong impact on customer Satisfaction & Loyalty	1.000	.902
SRT is a powerful tool for enriching the customer shopping experience	1.000	.825

Extraction Method: Principal Component Analysis.

Tab 5.39 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	6.781	37.673	37.673	6.781	37.673	37.673
2	2.914	16.191	53.864	2.914	16.191	53.864
3	2.454	13.631	67.495	2.454	13.631	67.495
4	1.554	8.634	76.129	1.554	8.634	76.129
5	1.175	6.529	82.658	1.175	6.529	82.658
6	1.062	5.900	88.558	1.062	5.900	88.558
7	.695	3.859	92.416			
8	.513	2.850	95.266			
9	.270	1.502	96.768			
10	.230	1.278	98.047			
11	.163	.905	98.952			
12	.114	.636	99.588			
13	.046	.256	99.844			
14	.028	.156	100.000			
15	3.001E-16	1.667E-15	100.000			
16	4.238E-17	2.354E-16	100.000			
17	-7.449E-18	-4.138E-17	100.000			
18	-5.863E-16	-3.257E-15	100.000			

Extraction Method: Principal Component Analysis.

Tab 5.40 Component Matrix^a

	Component					
	1	2	3	4	5	6
It is easy to adopt new Smart Retail Technology (SRT) in store	.739	.317	.144	-.285	-.206	-.330
Training the staff and customers about SRT is easy and beneficial for the store	.759	.380	.101	-.107	-.337	-.132
SRT is useful for both, the store operations as well as the customers	.718	.482	-.442	-.023	.039	-.112
SRT has ensured smooth and seamless functioning of the store	.718	.482	-.442	-.023	.039	-.112
Implementation of SRT needs many changes in store atmospherics.	-.123	.235	.858	.204	-.254	-.088
SRT has helped the store to increase the involvement of customers in various store functions	.722	-.330	.278	.319	.028	-.357
Presence of Smart Retail technology (SRT) has increased Customer Satisfaction	.644	-.550	-.011	.388	.191	.075
Presence of Smart Retail technology (SRT) has increased Customer Engagement	.745	-.240	-.295	.018	-.320	.279
Presence of Smart Retail technology (SRT) has improved Customer Experience	.664	-.369	.499	-.166	-.107	.226
Implementation of SRT is easy and hassle-free	.507	.753	-.162	.034	.047	.213
Customers are comfortable and happy to use SRT in store	.569	.090	.227	.051	.639	-.396
SRT has enhanced Customer Loyalty	.398	.475	.429	-.211	.445	.379
SRT has strengthened the Customer Advocacy	.722	-.001	.361	.103	.076	.471
Presence of SRT results into higher employee productivity	.216	.236	.369	.612	-.086	-.028
SRT has resulted into achieving better store performance	.695	-.125	-.356	.269	-.224	.151
Smart Customer experience through SRT has helped the store to achieve higher profitability	.532	-.593	-.369	-.049	.318	.053
Smart Customer experience through SRT has strong impact on customer Satisfaction & Loyalty	.725	-.506	.074	-.198	-.169	-.215
SRT is a powerful tool for enriching the customer shopping experience	.286	-.256	.294	-.769	-.014	-.003

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

5.12 Hypothesis Testing

Tab 5.41 Smart CEM Hypothesis Testing Results

		Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics
Model		B	Std. Error	Beta	t	Sig.	Tolerance VIF
1	(Constant)	.508	.095		5.335	.000	
	Customer Engagement → Smart Customer Experience	.060	.029	.067	2.059	.040	.081 12.328
	Customer Engagement → Technology Dynamics	.051	.017	.050	2.950	.003	.297 3.369
	Customer Dynamics → Smart Customer Experience	.012	.014	.014	.866	.038	.308 3.246
	Store Atmospheric → Smart Customer Experience	.014	.026	.015	.529	.597	.105 9.548
	Store Facilities and Services → Smart Customer Experience	-.004	.030	-.004	-.118	.906	.072 13.933
	Technology Dynamics → Smart Customer Experience	.077	.029	.073	2.619	.009	.111 9.005
	Smart Customer Experience → Customer Delight	.003	.033	.003	.078	.037	.058 17.095
	Smart Customer Experience → Customer Advocacy	.071	.021	.077	3.431	.001	.170 5.874
	Smart Customer Experience → Retail Profitability	.049	.033	.047	1.494	.013	.088 11.384

a. Dependent Variable: Smart Customer Experience

H₁: There is significant correlation between Customer Engagement and smart customer experience.

The values of multiple regression analysis indicated that customer engagement and the smart customer experience has significant relationship. For customer engagement t value is found to be significant ($t = 2.059$; $p = 0.040$) at 0.005 significance level. Also, the impact is found to be positive ($\beta = 0.060$), which clearly signifies that greater customer engagement results into stronger customer experience in the retail shopping journey. Therefore, H₁ is accepted.

H₂: There is significant correlation between Customer demographics and the technology dynamics used by the retailer.

Analysis of the customer demographics and technology dynamics show that age has significant impact upon the adoption of latest technology as the younger generation i.e., respondents between 20-30 have shown more intention in adoption of the new technologies. Respondents from the higher education and professional background are highly spirited towards adoption and learning about latest technology. Female have shown reluctance in using certain technologies on the grounds of data privacy. All these results clearly indicate that there is a significant role of customer demographics in the technology dynamics. Therefore, H_2 is accepted.

H₃: There is significant correlation between attitude of Customer towards new technology and the technology dynamics used by the retailer.

Results of the multiple regression analysis clearly indicate the significant relationship between customer engagement and the technology dynamics. For customer engagement the t value is found to be significant ($t = 2.950$; $p = 0.003$) at 0.005 significance level. Moreover, the attitude of the customers towards accepting new technology has been found to be considerable at ($\beta = 0.051$), which indicates that customers have shown strong and positive attitude towards accepting the smart retail technologies in the stores during their shopping journey. Therefore, H_3 is accepted.

H₄: There is significant correlation between Customer Dynamics and the Customer Experience of the retail shoppers.

The results of multiple regression analysis point towards significant relationship between customer dynamics and the smart customer experience. For the customer dynamics the t value is found to be significant ($t = 0.886$ $p = 0.038$) at 0.005 significance level. Also, it is observed that elements of customer dynamics such as, awareness about the technology, desire to learn new things and the interest to use new technology has been found to be considerable ($\beta = 0.012$) positive impact upon the smart customer experience for the retail shoppers in the modern retail outlets. Therefore, H_4 is accepted.

H₅: There is significant correlation between Store atmospherics and customer experience.

Multiple regression analysis shows that store atmospherics has not shown any significant impact upon the customer experience. The results for store atmospherics at t value found to be significant ($t = 0.529$ $p = 0.597$) at 0.005 significance level. Study shows that the aesthetically designed store atmospheric components may not results into significantly stronger customer experience at the significant value of ($\beta = 0.014$) resulting into not motivating the customers. Therefore, H₅ is not accepted.

H₆: There is significant correlation between Store facilities and services and the Customer experience.

The results of multiple regression analysis indicate that store facilities and services do not reflect any significant impact upon the customer experience. Practically the store facilities and the store atmospherics have shown the linear correlation which may be due to respondents' perception of both to be similar. The t value to be significant ($t = -0.118$ $p = 0.906$) at 0.005 significance level show the inverse relationship and hence we conclude that store facilities and services with the value of ($\beta = -0.004$) do not show any significant impact upon the customer experience while shopping in the store. Therefore, H₆ is not accepted.

H₇: There is significant correlation between Technology Dynamics and the Smart Customer experience.

Analysis using multiple regression method shows a strong and significant relationship between technology dynamics and smart customer experience. The t value to be significant ($t = 2.619$ $p = 0.009$) at 0.005 significance level clearly indicates that various smart retail technologies with the value of ($\beta = 0.077$) used by the retailers have resulted into improved customer experience while shopping in the store and resulted into greater satisfaction and delight for the retail shoppers. Therefore, H₇ is accepted.

H₈: There is a significant correlation between smart customer experience and higher customer value and delight of retail shoppers.

Smart customer experience has shown strong and positive impact upon the customer shopping by providing more value resulting into customer delight. The regression

analysis results with the significant value ($t = 0.708$ $p = 0.037$) at 0.005 significance level has shown that smart customer experience with the value of ($\beta = 0.003$) is capable of delivering higher value for the customers by saving time, empowering them to make better product choices, better returns for their spending as well as by making shopping as fun for them and resulting into enhanced customer delight for the retail shoppers. Therefore, H_8 is accepted.

H₉: There is a significant correlation between smart customer experience and store loyalty & advocacy of retail shoppers.

The study has identified a strong correlation between smart customer experience and the store loyalty & advocacy among the retail shoppers. The results of multiple correlation analysis with the significant t value of ($t = 3.431$ $p = 0.001$) at 0.005 significance level has shown that smart customer experience with significant value of ($\beta = 0.071$) has potential to motivate the delighted shoppers to refer the store to their family and friends and encourage them to visit the store to enjoy the similar kind of shopping experience reflecting powerful customer advocacy towards such retail outlets. Therefore, H_9 is accepted.

H₁₀: There is a significant correlation between smart customer experience and higher profitability for the retailer.

In this study a strong mediating role is observed by the smart customer experience in the process of improving the profitability of the retail store. Results of the multiple regression analysis as well as the mediation path analysis with the result of .91 and the significant t value of ($t = 1.494$ $p = 0.013$) at 0.005 significance level has clearly shown that smart customer experience with the significant value of ($\beta = 0.049$) results into improving customer satisfaction, motivating them to spend more time in store resulting into greater impulse buying, enhanced customer delight and advocacy in turn result into more revenue as well as profit for the retailer. Hence the smart customer experience plays a vital role in improving the store profitability for the retailers. Therefore, H_{10} is accepted.

Tab 5.42 Summary of Hypothesis Testing Results

S. No.	Hypothesis	Sig.	Decision
1	There is significant correlation between Customer Engagement and smart customer experience.	.000	Accepted
2	There is significant correlation between Customer demographics and the technology dynamics used by the retailer.	.040	Accepted
3	There is significant correlation between attitude of Customer towards new technology and the technology dynamics used by the retailer.	.003	Accepted
4	There is significant correlation between Customer Dynamics and the Customer Experience of the retail shoppers.	.038	Accepted
5	There is significant correlation between Store atmospherics and customer experience.	.597	Not Accepted
6	There is significant correlation between Store facilities and services and the Customer experience.	.906	Not Accepted
7	There is significant correlation between Technology Dynamics and the Smart Customer experience.	.009	Accepted
8	There is a significant correlation between smart customer experience and higher customer value and delight of retail shoppers.	.037	Accepted
9	There is a significant correlation between smart customer experience and store loyalty & advocacy of retail shoppers.	.001	Accepted
10	There is a significant correlation between smart customer experience and higher profitability for the retailer.	.013	Accepted

6.0 Findings Suggestions and Conclusion

Retail world has seen various changes over last few decades. Specially in the field of technology Retail Ecosystem has come across many disruptive technological revolutions such as from the traditional brick and mortar store to modern trade to e-commerce to m-commerce to smart store to quick commerce in the recent time. Retail business organizations have shown strong interest in the adoption of all the technologies and the result is seen in our surrounding in the form of transformed shopping practices of all of us as retail shoppers.

Retailers are trying hard to put the key advantages of physical stores such as touch and feel factor and the digital store advantage such as convenience and 24x7 shopping to enhance the overall customer experience during the entire shopping journey of every customer.

In last few decades the Retail business world has seen intensified within industry rivalry among the physical and the digital retailers and imposed a greater challenge upon the store-based retailers about their survival and the sustainable growth. Customer psyche has also been inclined towards the digital shopping due to various advantages such as convenience, lower prices, larger assortment, and the access to the loads of information related to any product to be purchased. These changing retail scenarios are proved to be more challenging for the physical store to survive and cater the towering expectations of the new gen customers.

India has more than 12.8 million small to big store outlets (Retail Industry Report 2021, IBEF) providing an employment to approximately 8% population of this nation and contributing 10% to the GDP. Hence the survival of this sector is not only a question from the business world but also an important issue of the national interest.

Smart Retail Technologies like RFID, VR Headgear, Smart Mirrors, Smart Shopping Carts, AI, Machine Learning and Deep Learning etc. have emerged as path breaking solutions for the retailers to enhance customer experience and add value for the customers in their shopping process as well as use those technologies for improving the profitability and growth potential

of the retail business organization by making proper use of these technologies for increasing customer footfall, employee efficiency, better inventory management, time management and above all optimum utilization of all the available resources for improving the performance resulting into better revenue and greater returns on investments.

All these Smart Retail Technologies can help the stores in creating a remarkable shopping atmosphere that can provide result into greater shopping value for the customers via smart customer experience management which will help the retailers with enhanced performance and superior profitability. This will also help the retailers to overcome challenges imposed due to the digital stores and make them more stable and sustainable in the modern business ecosystem.

6.1 Discussion of Research Findings

In this study research is conducted to find out the role of smart retail technologies in creating smart customer experience, impact of smart customer experience management upon the customer satisfaction, customer loyalty, advocacy, and overall profitability of the retail business organization. The data is collected for customers as well as retailers by using two structured questionnaires and the data is analysed with the help of various statistical tools using SPSS 23.0 and AMOS 20.0. The results are discussed here to know the usefulness of the smart retail technologies as well as the customers readiness towards the adoption of all such technologies.

All together 689 customers' responses and 16 retailers' responses are used in this study for the purpose of analysis. Multiple correlation analysis, regression analysis, mediation analysis using structural equation modelling and path analysis is used in this study to verify the relationship between various independent, dependent, and mediating variables.

This study has offered clarity upon the role of smart retail technologies in generating smart customer experience, smart customer experience management in achieving enhanced customer delight, advocacy as well as greater profitability for the retailers with the help of smart retail technologies and smart customer experience management. The study also tried to project more

light upon the type of smart retail technology that will be more helpful and suitable for a specific retail store based upon the operational requirement and the adoption level challenges.

6.1.1 Objective 1

To understand smart customer experience as the strategic differentiator in the retail sector leading to creation of store loyalty among retail shoppers.

According to this study various retail store using smart retail technologies to improve their store performance have been moderately successful in using the smart customer experience management as a strategic tool to counter the changing retail ecosystem due to the emergence of disruptive changes like e-commerce, m-commerce and quick commerce and achieved enhanced customer footfall, more sales & revenue as well as better store profitability viz improved customer delight, loyalty and advocacy. This study proves the role of Smart Customer Experience as strategic differentiator in the retail sector.

6.1.2 Objective 2

To identify various factor influencing the smart customer experience of the retail shoppers.

Analysis under this study has helped to identify various factors influencing the smart customer experience such as customer age, education & occupation, customer dynamics, customer engagement, store atmospherics as well as technology dynamics and the impact of all these factors upon the customer delight, loyalty, advocacy as well as overall store profitability. The study is clearly able to identify that customer demographics, customer dynamics and the customer engagement are the most significant factors influencing the acceptance and adoption of any new technology in the retail store. The said technology has strong and positive impact upon the overall shopping experience of the retail shoppers.

6.1.3 Objective 3

To study the relationship between smart customer experience and the demographics of retail shoppers.

The data collected from the respondents and analysis of that data has provided further clarity related to relationship between customer demographics and the smart customer experience. The study shows that customer within age group of 20-30 and 30-40 are more inclined towards adoption of new technologies. Customers with higher educational qualification like UG, PG and professional education are more adoptive towards the latest technology. Gender has also shown an impact as few female customers have shown reluctance in using certain smart retail technologies like smart mirrors and smart trial rooms on the grounds of risk associated with data privacy and data secrecy. The hesitation of such customers proves to be a hurdle in the process of implementation of smart retail technologies in the business without proper customer education and awareness.

This analysis also helped the study to add a new dimension to the much popular Models like TAM and UTAUT in the name of perceived risk associated with the technology and propose a formula for the adoption of the new technology such as:

$$\text{Technology Adoption} = \frac{\text{Perceived Usefulness}}{\text{Perceived Risk Associated}}$$

6.1.4 Objective 4

To study the extent of customer engagement in the era of smart technology.

This study has tried to identify the extent of customer engagement in the new retail ecosystem and the emergence of the smart retail technologies such as the customers high level of involvement due to self-service concept, positive attitude towards the new technology due to immersive technologies like smart phones, smart devices which are already in use, readiness to adopt new technology easily due to its benefits as well as fun-filled usefulness and habit of immediate response towards adoption of such technologies had made the retailers to give positive thought in implementing such technologies in their business format with an enhanced

vigour. This finding is in line with findings of the study by **Stein and Ramaseshan's (2016)** study which denotes that technology has supported the customers throughout their shopping journey.

6.1.5 Objective 5

To study the role of technology in enabling the customers to navigate seamlessly through their shopping journey.

The customer shopping journey has various stages, and the study has identified useful role of various smart retail technologies such as digital shopping list for efficient need identification, smart mirrors and smart trial rooms for better product selection, interactive displays for improved product comparison, availability checks and access to remote inventory and the self-checkouts as well as cashier less stores for fast billing and checkouts from the stores. All these technologies make the customers shopping journey more fun filled, empowers the customers to make better product choices, saves time and efforts and offers delightful shopping experience at various touchpoints during the entire shopping journey. This result is supported by the study of **Pantano and Naccarato, (2010)** where it is clearly expressed about the role of technology in enhancing customer shopping experience.

6.1.6 Objective 6

To identify the value added by the smart technology to the retail shoppers.

Based on the analysis of customer responses, study has identified that smart retail technologies help the customers in making better product selection, more informed product comparisons, saves time and efforts as well as empowers the customer in their entire shopping apart from adding fun to their shopping. This outcome of the study is in line results achieved in the study by **Poncin et al., (2015)**, where it has been observed that the smart technologies are capable in adding hedonic value for the user in various sectors such as tourism, hospitality, education and the gaming industry.

6.1.7 Objective 7

To determine the effect of smart customer experience on the retailer's profitability.

This study has collected responses from the retailers and analysed to conclude that present of smart customer experience helps the retailers by improving customer footfall, generating more sales viz impulse buying, increase store revenue through adding more customers via referrals due to customer advocacy, helps the store to cut cost by using self-checkouts, better inventory management and stock replenishment, enhanced knowledge about the customers shopping patterns helpful for to define the future store offering and increasing the overall profitability of the retail store. This result is substantiated by the study done by **Heskett et al., (2008)** where it is defined that the smart technologies have strong role in firm's financial performance.

6.2 Suggestions

After analysis of the data collected from the customers and the retailers, this study wants to offer few suggestions based upon the outcomes of this study.

6.2.1 Suggestions for the Policy Makers

There are about 12.8 million retailers operating in our country, which has been 14 million in 2018-19. This reduction may be due to the pandemic as well as other economic adversities. These retailers contribute to 8% of employment and 10% to GDP (source: *ibef.com*). Any adverse impact on these retailers may leave a dent to the economy. So, the policy decisions must be adopted to safeguard the interest of all these store holders.

To bring the smart retail technology within the ambit of small and marginal retailers, a new policy like ease of doing business to be brought to make ease of adopting new technologies. Ex. Subsidy, Tax Exemption etc.

Store based retailers to be provided with help for acquiring new technology by making it more affordable and easily available. Policy makers may facilitate the joint ventures or technology sharing agreement specially for small retailers.

FDI norms to be simplified further in the segment of multi-brand retailing.

Data privacy and data security related provisions in the IT Act 2000 to be applicable to retail sector as well.

6.2.2 Suggestions for the Retailers

Smart retail technologies to be used more profoundly to enhance the shopping experience of the customers. Store atmospherics need to be modified to facilitate the adoption of smart technologies in the business.

Retailers need to conduct regular employee training camps to be ensure smooth adoption and implementation of these smart retail technologies in their business.

Customer awareness and knowledge campaigns must regularly conduct to educate the customers about the benefits of these smart retail technologies and eradicate the fear factor related to the data privacy and secrecy.

Store based retailers need to use smart customer experience management as a strategic tool to combat with the emerging retail formats like e-commerce, m-commerce, and quick commerce.

Retailers need to learn to make use of immersive technologies like RFID, AI, Smart shelves, fusion sensors, AR/VR and Smart checkouts to add convenience, empowerment, and value-added benefits for the shoppers to enhance their profitability.

6.3 Implications of the Study

Detailed analysis of the data collected leaves following implications out of this study.

6.3.1 Theoretical Implications

SD Logic Model, TAM and UTAUT models explain us about how the new technology is adopted but here a new dimension is added to this model. i.e., Technology Acquaintance. Hence this study suggests modifying the TAM as TAAM Model i.e., Technology Acquaintance and Adoption Model. This new model will take into consideration the existing variables like ease of use, perceived benefits, along with those new variables is suggested to consider called perceived risk associated with the new technology. This study suggests creating complete

acquaintance about the technology among all possible users, provide the risk minimization of risk aversion mechanism and then propose to adopt such new technology without any hesitation so as to achieve maximum possible results with the help of such technologies. User friendliness of the technology is important, but risk freeness is more crucial in this scenario.

Also, this study is trying to focus on the level of technology adoption in consideration with a new variable called Perceived Risk (PR) along with the existing factors named Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Hence a new formula is recommended to be used for Technology Acceptance more profound.

$$\text{Technology Adoption} = \frac{\text{Perceived Usefulness}}{\text{Perceived Risk Associated}}$$

6.3.2 Managerial Implications

Retailers need to organize more resources for the adoption and use of new smart retail technologies.

The technology sharing agreements with IT companies as well as MNC retailers can be of great help for improving the retail performance.

Customer Dynamics and Technology Dynamics to be considered as new segmentation criteria for designing retail business strategy.

Role of SRT must be clearly defined in inventory management, manpower planning, store operations and CRM strategies.

New customer profiles to be prepared for the implementation of various smart retail technologies to be useful in the process of adoption and use of SRT in the store.

6.4 Limitations of Study

This study is conducted only in selected metro and tier 1 cities only.

Majority of respondents are youngsters within age group of 20-30 and 30-40 yrs.

Large number of respondents are aware about technology so adoption may become easy for such people compared to others.

Few technologies are specifically useful of the stores only and very few stores are presently using such technologies in India.

Few technologies are very costly and need huge initial investments which may turn to be hurdle for many retailers in adoption of these SRTs in their business resulting into very small scope and respondents for the study.

All these limitations make it difficult to generalize the results of this study and suggest for the further research before framing a new theory.

6.5 Scope for Future Research

Similar study can be conducted with the respondents from semiurban, rural, and other geographic areas to get more clarity about the adoption of SRTs.

Smart customer experience management can be studied in specific segments in the retail sectors such as Grocery, Fashion, Durables, etc and the impact can be further studied to acquire more clarity about the topic.

An experimental study can be conducted in 1 or 2 specific retail outlets and impact of smart customer experience management can be studied in consideration of demographic, psychographic or geographic patterns.

A longitudinal study can be conducted to check the extent of customer loyalty and advocacy associated with a specific retailer using smart retail technologies.

6.6 Conclusion

The retail ecosystem has been observing various disruptive changes in last few decades like emergence of Modern Trade, E-commerce, M-commerce, and the latest one Quick Commerce. Store-based retailer have seen many ups and downs in their business. This study has tried to identify the role of SRT for the store-based retailers to help them in transforming themselves into ultra- modern smart retailers capable of delivering the improved and rich customer experience.

This study may become very useful for the retailers to guarantee prolonged and rewarding journey for retail shopper visiting the store as well as help the retail to transform this into a long-term relationship making the shoppers store loyal and consistent shoppers.

This research has also tried to identify numerous evolving SRTs and their usefulness for the new generation retailers for augmenting the inclusive customer experience for every shopper during various interceptions between the retailer and the customer during their shopping journey.

This research will be very useful for the retailers in selection a particular type of SRT suitable for their business model.

Impact of SRT on customer footfall and store profitability suggest to the retail stores to adopt these technologies and achieve sustainable growth.

The study has proved that Smart Customer Experience Management acts as strategic differentiator for the store-based retailers in the changing retail ecosystem.

BIBLIOGRAPHY

Aguirre, Elizabeth M., Dominik Mahr, Dhruv Grewal, Ko de Ruyter and Mar-tin Wetzels (2015), “Unravelling the Personalization Paradox: The Effect of Information Collection and Trust-Building Strategies on Online Advertisement Effectiveness,” *Journal of Retailing*, 91 (1), 34–49.

Anderson, M., & Bolton, J. (2015). Integration of Sensors to Improve Customer Experience: Implementing Device Integration for the Retail Sector. In *e-Business Engineering (ICEBE)*. In 2015 IEEE 12th international conference (pp. 382e386).

Aaron Donnelly, *Managing the Customer Experience Through Retail Digitalization*, Master’s Thesis, Tampere University, Leadership for Change, February 2020

Ayers, J. B., & Odegaard, M. A. (2017). *Retail supply chain management*. CRC Press.

Bagdare, S., & Jain, R. (2013). Measuring retail customer experience. *International Journal of Retail & Distribution Management*, 41(10), 790–804. doi:10.1108/IJRDM-08-2012-0084

Bassano, C., Piciocchi, P., Spohrer, J. C., & Pietronudo, M, C. (2018). Managing value co-creation in consumer service systems within smart retail settings. *Journal of Retailing and Consumer Services*, 45, 190–197. doi:10.1016/j.jretconser.2018.09.008

Belk, R., 2010. Sharing. *J. Consum. Res.* 36 (5), 715–734. <http://dx.doi.org/10.1086/612649>.

Biedenbach, G., & Marell, A. (2010). The impact of customer experience on brand equity in a business-to-business services setting. *Journal of Brand Management*, 17(6), 446–458.

Bendaya, M., Hassini, E., & Bahroun, Z. (2017). Internet of things and supply chain management: a literature review. *International Journal of Production Research*, 1–24.

Berry L., L., Lewis P., C. and H. Haeckel, S. (2002) ‘Managing the Total Customer Experience’, *MIT Sloan Management Review*. doi: 10.1371/journal.pone.0015090.

Bilgihan, A. (2016). Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding. *Computers in Human Behavior*, 61, 103e113.

Brakus, J. J., B. H. Schmitt, and L. Zarantonello. 2009. "Brand Experience: What Is It? How Is It Measured? Does It Affect Loyalty?" *Journal of Marketing* 73 (3): 52–68. doi:10.1509/jmkg.73.3.052.

Brough, Aaron R. and Kelly D. Martin (2020), "Consumer Privacy During (and After) the COVID-19 Pandemic," *Journal of Public Policy & Marketing*, <http://dx.doi.org/10.1177/0743915620929999>

Burke, R. R. (2009). Behavioral effects of digital signage. *Journal of Advertising Research*, 49(2), 180–185. Cearley, D., Walker, M., Burke, B., & Searle, S. (2017). Top 10 strategic technology trends for 2017: A Gartner trend insight report. Retrieved June 23, 2017 from <https://www.gartner.com/doc/3645332?srcId=1-6595640781>

Buttle, F. (2009), *Customer Relationship Management: Concepts and Technologies*, 2nd ed., Elsevier Linacre House, Jordan Hill.

Cajetan, C. (2018), "Digital banking, customer experience and bank financial performance: UK customers' perceptions", *International Journal of Bank Marketing*, Vol. 36 No. 2, pp. 230-255.

Caru, A., & Cova, B. (2003). Revisiting consumption experience: A more humble but complete view of the concept. *Marketing Theory*, 3(2), 267–286.

Caru, A., & Cova, B. (2007). *Consuming experience*. London: Routledge.

Chang, S. H., Chih, W. H., Liou, D. K., & Yang, Y. T. (2016). The mediation of cognitive attitude for online shopping. *Information Technology & People*, 29(3), 618e646.

Chen, S. C., & Lin, C. P. (2015). The impact of customer experience and perceived value on sustainable social relationship in blogs: An empirical study. *Technological Forecasting and Social Change*, 96, 40e50.

Chiliya, N., Herbst, G. and Roberts-Lombard, M., 2009. The impact of marketing strategies on profitability of small grocery shops in South African townships. *African Journal of Business Management*, 3(3), pp. 70.

Chiu, C.-M., Wang, E., Fang, Y.-H., Huang, H.-Y., 2014. Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Inf. Syst. J.* 24 (1), 85–114.

Clemes, M.D., Gan, C. and Zheng, L.Y. (2019), "Customer switching behavior in the New Zealand banking industry", *Banks and Bank Systems*, Vol. 2 No. 4, pp. 50-62.

Cearley, D., Walker, M., Burke, B. & Searle, S. (2017). Top 10 strategic technology trends for 2017: A Gartner trend insight report. Retrieved June 23, 2017 from <https://www.gartner.com/doc/3645332?srcId=1-6595640781>

Coresight Research. (2018). Dynamic pricing: Hard to compete with AI on pricing. Available at <https://www.funglobalretailtech.com/research/dynamic-pricing-hard-compete-ai-pricing/>

Cottet, P., M. C. Lichtlé, and V. Plichon. 2006. "The Role of Value in Services: A Study in a Retail Environment." *Journal of Consumer Marketing* 23 (4): 219–227. doi:10.1108/07363760610674347.

de Nisco, A., & Warnaby, G. (2013). Shopping in downtown: The effect of urban environment on service quality perception and behavioural intentions. *International Journal of Retail & Distribution Management*, 41(9), 654–670.

Davis, F.D., Bagozzi, R.P., Warshaw, P.R., 1989. User acceptance of computer technology: a comparison of two theoretical models. *Manag. Sci.* 35 (8):982–1003.

Duan, W., Gu, B., & Whinston, A. B. (2008). Do online reviews matter? —An empirical investigation of panel data. *Decision Support Systems*, 45(4), 1007-1016.

Deloitte, 2011. Deloitte Store 3.0™. Planning Tomorrow's Store Today. Deloitte Group (Available at <http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&htmlfid=REW03013USEN>. Consulted on 28 September 2014).

Deloitte (2016), Retail Trends in 2016, (accessed December 12, 2016), [<https://www2.deloitte.com/uk/en/pages/consumer-business/articles/retail-trends-2016.html>]

Dennis, C., Michon, R., Brakus, J. J., Newman, A., & Alamanos, E. (2012). New insight into impact of digital signage as a retail atmospheric tool. *Journal of Consumer Behaviour*, 11(6), 454–466. <https://doi.org/10.1002/cb.1394>.

Dennis, C., Newman, A., Michon, R., Brakus, J. J., & Wright, L. T. (2010). The mediating effects of perception and emotion: Digital signage in mall atmospherics. *Journal of Retailing and Consumer Services*, 17(3), 205–215. <https://doi.org/10.1016/j.jretconser.2010.03.009>.

Duncan, E., Fanderl, H., Macchler, N., & Neher, K. (2016). Customer experience: Creating value through transforming customer journeys. McKinsey & Company, 1, 3–7.

Du Plooy, A.T., De Jager, J.W. and Van Zyl, D., 2013. Drivers of perceived service quality in selected informal grocery retail stores in Gauteng, South Africa. *Southern African Business Review*, 16(1), pp. 94-121.

Finkenzeller, K. 2015, *RFID handbook: Fundamentals and applications in contactless smart cards, radio frequency identification, and near-field communication* (3rd ed., trans. D. Müller). West Sussex, UK: John Wiley & Sons, Ltd.

Gartner, 2014. Gartner surveys confirm customer experience is the new battlefield. Retrieved April 15, 2015 from <http://blogs.gartner.com/jake-sorofman/gartnersurveys-confirm-customer-experience-newbattlefield>.

Gentile, Chiara, Nicola Spiller and Giuliano Noci (2007), “How to Sustain the Customer Experience: An Overview of Experience Components that Cocreate Value with the Customer,” *European Management Journal*, 25 (5), 395–410.

Gilmore, J. H., & Pine, B. J. (2002), Value with the Customer. *European Management Journal*, 25(5), 395-410.

Gregory, J., 2015. The Internet of Things: revolutionizing the retail industry. available at: https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DitCom/Documents/Global

Grewal, Dhruv, Michael Levy and V. Kumar (2009), “Customer Experience Management in Retailing: An Organizing Framework,” *Journal of Retailing*, 85 (1), 1–14.

Grewal Dhruv, Anne L. Roggeveena, Jens Nordfält(2017) Future of Retailing, *Journal of Retailing* 93 (1, 2017) 1–6

Grewal Dhruv and Anne L. Roggeveen (2020), “Understanding Retail Experiences and Customer Journey Management,” *Journal of Retailing*, 96 (1),3–8.

Hallsworth, A., Coca-Stefaniak, A., 2018. National High Street retail and town centre policy at a crossroads in England and Wales. *Cities* 79, 134–140.

Hagberg, J., Jonsson, A., & Egels-Zandén, N. (2017). Retail digitalization: Implications for physical stores. *Journal of Retailing and Consumer Services*, (39), 264–269. doi: 10.1016/j.jretconser.2017.08.005.

Hagberg, J., Sundstrom, M., & Egels-Zandén, N. (2016). The digitalization of retailing: an exploratory framework. *International Journal of Retail & Distribution Management*, 44(7), 694–712. doi:10.1108/IJRDM-09-2015-0140.

Hänninen, M., Smedlund, A., Mitronen, L., 2018. Digitalization in retailing: multi-sided platforms as drivers of industry transformation. *Baltic J. Manag.* 13 (2), 152–168.

Hänninen, M., Mitronen, L., Kwan, S.K., 2019. Multi-sided marketplaces and the transformation of retail: a service systems perspective. *J. Retailing Consum. Serv.* 49 (1), 380–388.

Hassan, S., Nadzim, S. Z. A., & Shiratuddin, N. (2015). Strategic use of social media for small business based on the AIDA model. *Procedia-Social and Behavioral Sciences*, 172(27), 262–269.

Helm, S., Kim, S. H., & Van Riper, S. (2018). Navigating the ‘retail apocalypse’: A framework of consumer evaluations of the new retail landscape. *Journal of Retailing and Consumer Services*.1–9. doi:10.1016/j.jretconser.2018.09.015

Heskett, J.L., Jones, T.O., Loveman, G.W., Sasser, W.E., Schlesinger, L.A., (2008), Putting the service-profit chain to work. *Harvard Business Review*.

Hong, T. (2016), Customer Experience as a Competitive Differentiator in Subscription Services –Thinking beyond the Paywall, Thesis, Helsinki Metropolia University of Applied Sciences, Helsinki Metropolia University, 5 May.

Hopping, D., 2000. Technology in retail. *Technol. Soc.* 22 (1):63–74. [http://dx.doi.org/10.1016/S0160-791X\(99\)00042-1](http://dx.doi.org/10.1016/S0160-791X(99)00042-1).

Hure, E., Picot-Coupey, K., Ackermann, C.-L., 2017. Understanding omni-channel shopping value: a mixed-method study. *J. Retailing Consum. Serv.* 39 (1), 314–330.

IBM, 2012. Retail 2020: reinventing retailing once again. Thought Leadership White Paper REW03013USEN. IBM Sales and Distribution (available at: <http://www-01.ibm.com/common/ssi/cgibin/ssialias?infotype=SA&subtype=WH&htmlfid=REW03013USEN>, consulted on 28 September 2014).

Immonen, M., Sintonen, S., 2015. Evolution of technology perceptions over time. *Inf. Technol. People* 28 (3), 589–606.

Inman, J. Jeffrey and Hristina Nikolova (2017), “Shopper-Facing Retail Technology: A Retailer Adoption Decision Framework Incorporating Shopper Attitudes and Privacy Concerns,” *Journal of Retailing*, 93, 7–28.

India Retail Industry Report 2020, April 2020, India Brand Equity Foundation, www.ibef.com

Jain, V., Bernal, J., & Jain, P. (2017). Big Data Drives Luxury Brands Growth Beyond Digital. Retrieved 23, December, 2019 from <https://luxedigital/business/digital-luxury-reports/big-data-drives-luxury-brands-growth-beyond-digital/>.

Jasek, P., Vrana, L., Sperkova, L., Smutny, Z., Kobulsky, M., 2018. Modelling and application of customer lifetime value in online retail. *Informatics* 5 (2). <https://doi.org/10.3390/informatics5010002>.

Jennifer A. Locander, Allyn White, Christopher L. Newman, (2020), Customer responses to frontline employee complaining in retail service environments: The role of perceived impropriety, *Journal of Business Research* 107 (2020) 315–323.

Johnson, K. K., Kim, Y. H., Mee Mun, J., & Lee, J. Y. (2015). Keeping customers shopping in stores: Interrelationships among store attributes, shopping enjoyment, and place attachment. *The International Review of Retail. Distribution and Consumer Research*, 25(1), 20–34.

Jones, P., Comfort, D., Clarke-Hill, C., & Hillier, D. (2010). Retail experience stores: Experiencing the brand at first hand. *Marketing Intelligence & Planning*, 28(3), 241–248. doi:10.1108/02634501011041408

Kailash, Saha. R. K, Goyal S. (2017) Scope of Internal Supply Chain Management Benchmarking in Indian Manufacturing Industries. *International Journal of Economics and Management Engineering* Vol: 11, No: 6

Kalaighanam, K., Kushwaha, T., Rajavi, K., 2018. How does web personalization create value for online retailers? Lower cash flow volatility or enhanced cash flows. *J. Retailing* 94 (3), 265–279.

Kamble, S. S., A. Gunasekaran, H. Parekh, and S. Joshi. 2019. “Modelling the Internet of Things Adoption Barriers in Food Retail Supply Chains.” *Journal of Retailing and Consumer Services* 48: 154–168.

Karlsson, S., & Nilsson, M. (2017). What makes a city centre attractive from a consumer perspective? A comparison between residents and visitors of Kristianstad city centre (Unpublished Bachelor’s thesis). Kristianstad: Högskolan i Kristianstad.

Katherine Lemon, and Verhoef, P. C. (2016) ‘Understanding Customer Experience Throughout the Customer Journey’, *Journal of Marketing*, 80(6), pp. 69–96. doi: 10.1509/jm.15.0420.

Kavitha, S. and Haritha, P. (2018), “A study on customer experience and its relationship with repurchase intention among telecom subscribers in Coimbatore district”, *International Journal of Management Studies*, Vol. 5 No. 3, pp. 83-91.

Kelly D. Martina, Jisu J. Kimb, Robert W. Palmatierb, Lena Steinhoffc, David W. Stewartd, Beth A. Walkera, Yonggui Wange, Scott K. Weavenfa, (2020) Data Privacy in Retail, *Journal of Retailing*, <https://doi.org/10.1016/j.jretai.2020.08.003>

Keeling, K., Keeling, D., & McGoldrick, P. (2013). Retail relationships in a digital age. *Journal of Business Research*, 66(7), 847–855. doi: 10.1016/j.jbusres.2011.06.010

Khan, I., and Z. Rahman. 2016. "Retail Brand Experience: Scale Development and Validation." *Journal of Product & Brand Management* 25 (5): 435-451. doi:10.1108/JPBM-07-2015-0943.

Kim Ha Youn, Yuri Lee, Erin Cho and Yeo Jin Jung, 2020, Digital atmosphere of fashion retail stores, *FashText*, <https://doi.org/10.1186/s40691-020-00217-6>.

Kim, H.Y., Lee, J.Y., Mun, J.M., Johnson, K.K., 2016. Consumer adoption of smart in-store technology: assessing the predictive value of attitude versus beliefs in the technology acceptance model. *International Journal of Fashion Design, Technology and Education* 10 (1), 26–36.

Kim, Y., Han, J., 2014. Why smartphone advertising attracts customers: a model of Web advertising, flow and personalization. *Comput. Hum. Behav.* 33 (4), 256–269.

Kim, S., Cha, J., Knutson, B.J. and Beck, J.A. (2011), "Development and testing of the consumer experience index (CEI)", *Managing Service Quality*, Vol. 21 No. 2, pp. 112-132.

Knowledge@Wharton. (2009, January 7). Not on the list? The truth about impulse purchases. Available at <http://knowledge.wharton.upenn.edu/article/not-on-the-list-the-truth-about-impulse-purchases/>

Knutson, B.J., Beck, J.A., Kim, S.H. and Cha, J. (2007), "Identifying the dimensions of the experience construct", *Journal of Hospitality Marketing & Management*, Vol. 15 No. 3, pp. 31-47.

Kriss, P. (2014), "The Value of Customer Experience, Quantified", *Harvard Business Review*, August 2014.

Kumar, A., and Y. K. Kim. 2014. "The Store-as-a-brand Strategy: The Effect of Store Environment on Customer Responses." *Journal of Retailing and Consumer Services* 21 (5): 685–695. doi:10.1016/j.jretconser.2014.04.008.

Kumar, V., & Reinartz, W. (2016). Creating enduring customer value. *Journal of Marketing*, 80(6), 36–68. doi:10.1509/jm.15.0414

Lamin B. Ceesay, (2020), Building A High Customer Experience Management Organization: Towards Customer-Centricity, Preprints (www.preprints.org), doi:10.20944/preprints202010.0053.v1

Larissa Becker & Elina Jaakkola, (2020), Customer experience: fundamental premises and implications for research, *Journal of the Academy of Marketing Science* 48:630–648, <https://doi.org/10.1007/s11747-019-00718-x>

Lemke, F., Clark, M., & Wilson, H. (2011). Customer experience quality: an exploration in business and consumer contexts using repertory grid technique. *Journal of the Academy of Marketing Science*, 39(6), 846-869.

Lemon, K., Rust, R., Zeithaml, V., 2001. What drives customer equity. *Mark. Manag.* 10 (1), 20–25.

Lemon, K., Verhoef, P., 2016. Understanding customer experience throughout the customer journey. *J. Market.* 80 (6), 69–96.

Liao, S.H., Chen, Y.J., 2004. Mining customer knowledge for electronic catalogue marketing. *Expert Syst. Appl.* 27, 521–532.

Lundaeva, E. (2019), Customer Experience Management an Essential Factor in Building Customer Loyalty, Thesis, Helsinki Metropolia University of Applied Sciences, Helsinki Metropolia University, 19 February.

Maggio, E. (2017, June 15). Apple CEO Tim Cook is so excited about augmented reality that he wants to 'yell out and scream'. *Business Insider Nordic*. Retrieved from <https://nordic.businessinsider.com/apple-ceo-tim-cook-is-so-excited-about-augmented-reality-he-wants-to-yell-out-and-scream-2017-6>

Martin, Kelly D., Abhishek Borah and Robert W. Palmatier (2017), “Data Privacy: Effects on Customer and Firm Performance,” *Journal of Marketing*, 81 (1), 36–58.

Martin, Kelly D., Robert W. Palmatier and Abhishek Borah (2018), “A Strong Privacy Policy Can Save Your Company Millions,” *Harvard Business Review*, February.

Mårtenson, R. 2007. “Corporate Brand Image, Satisfaction and Store Loyalty: A Study of the Store as a Brand, Store Brands and Manufacturer Brands.” *International Journal of Retail & Distribution Management* 35 (7): 544–555. doi:10.1108/09590550710755921.

Mende, M., & Noble, S. M. (2019). Retail apocalypse or golden opportunity for retail frontline management? *Journal of Retailing*, 95(2), 84–89. doi:10.1016/j.jretai.2019.06.002

Meyer, C. A. S. (2007). Understanding customer experience. *Harvard Business Review*. February.

Mou, S., Robb, D. J., & DeHoratius, N. (2018). Retail store operations: Literature review and research directions. *European Journal of Operational Research*, 265(2), 399—422.

Murcott, A., Belasco, W., Jackson, P., 2013. *The Handbook of Food Research*. Bloomsbury Academic, London.

Murwisi, M. (2018), “Prosperity of the banking industry amid economic challenges in Zimbabwe, the new perspective”, *Southern Africa Journal of Business and Economic Studies*, Vol. 2 No. 1, pp. 01-12.

Omoregie, O.K., Addae, J.A., Coffie, S. and Offori, K.S. (2019), “Factors influencing consumer loyalty: evidence from the Ghanaian retail banking industry”, *International Journal of Bank Marketing*, Vol. 37 No. 3, pp. 798-820.

Pantano, E., & Priporas, C. V. (2016). The effect of mobile retailing on consumers' purchasing experiences: A dynamic perspective. *Computers in Human Behavior*, 61, 548e555.

Pantano, E., 2014. Innovation drivers in retail industry. *Int. J. Inf. Manag.* 34 (3), 344–350.

- Pantano, E., Naccarato, G., 2010. Entertainment in retailing: the influences of advanced technologies. *J. Retail. Consum. Serv.* 17 (3):200–204. <http://dx.doi.org/10.1016/j.jretconser.2010.03.010>.
- Pantano, E., Viassone, M., 2014. Demand pull and technology push perspective in technology-based innovations for the points of sale: the retailers' evaluation. *J. Retail. Consum. Serv.* 21 (1), 43–47.
- Pantano, E., Timmermans, H., 2014. What is smart for retailing? *Procedia Environ. Sc.* 22: 101–107. <http://dx.doi.org/10.1016/j.proenv.2014.11.010>.
- Pantano, E., Viassone, M., 2015. Engaging consumers on new integrated multi-channel retail environments: challenges for retailers. *J. Retail. Consum. Serv.* 25:106–114. <http://dx.doi.org/10.1016/j.jretconser.2015.04.003>.
- Perdikaki, O., Kesavan, S., & Swaminathan, J. M. (2012). Effect of traffic on sales and conversion rates. *Manufacturing and Service Operations Management*, 14(1), 145–162.
- Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard Business Review*, 76, 97e105.
- PwC (2018), Prepare for the Voice Revolution, Consumer Intelligence Series (accessed August 21, 2020), [www.pwc.com/cisvoiceassistants]
- Raman, S., N. Patwa, I. Niranjana, U. Ranjan, K. Moorthy, and A. Mehta. 2018. "Impact of big Data on Supply Chain Management." *International Journal of Logistics Research and Applications* 21 (6): 579–596.
- Reddy, S., & Reinartz, W. (2017). Digital Transformation and Value Creation: Sea Change Ahead. *Value in the Digital Era*, 9. (1). 10–17. doi:10.1515/gfkmir-2017-0002
- Rekettey, G. (2019), *Value Creation 4.0 – Marketing Products in the 21st Century*, Transnational Press London.

Research and Markets, 2015. Retail IoT market growth & forecast 2015 to 2020. Available at: <http://www.marketsandmarketsblog.com/retail-iot-market.html>.

Rapp, A., Baker, T., Bachrach, D.G., Ogilvie, J., Skinner Beitelspacher, L., 2015. Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance. *J. Retail.* 91 (2), 358–369.

Roggeveen, Anne L. and Raj Sethuraman (2020), “Customer-Interfacing Retail Technologies in 2020 & Beyond: An Integrative Framework and Research,” *Journal of Retailing* 96 (3, 2020) 299–309.

Saarijärvi, H., Kannan, P. K., & Kuusela, H. (2013). Value co-creation: theoretical approaches and practical implications. *European Business Review*, 25 (1), 6–19. doi:10.1108/09555341311287718

Saarijärvi, H., Mitronen, L., Yrjölä, M., 2014. From selling to supporting – leveraging mobile services in the context of food retailing. *J. Retailing Consum. Serv.* 21 (1), 26–36.

Sahi, G. K., Sehgal, S., & Sharma, R. (2017). Predicting customers recommendation from co-creation of value, customization and relational value. *Vikalpa: The Journal for Decision Makers*, 42(1), 19–35. doi:10.1177/0256090916686680

Sanjit Kumar Roy, Balaji, M. S., Sadeque, S., Nguyen, B., & Melewar, T. C. (2017). Constituents and consequences of smart customer experience in retailing. *Technological Forecasting and Social Change*, 124, 257–270

Sedley, Richard (2010), “4th Annual Online Customer Engagement Report 2010” (available at <http://issuu.com/richardsedley/docs/customer-engagement-report2010/>).

Sethuraman, Raj and A. Parasuraman (2005), “Succeeding in the Big Middle through Technology,” *Journal of Retailing*, 81 (2), 107–11.

Shah, D. et al. (2006) 'The path to customer centricity', *Journal of Service Research*, 9(2), pp. 113–124. doi: 10.1177/1094670506294666.

Shankar, V., Inman, J.J., Mantrala, M., Kelley, E., Rizley, R., 2011. Innovations in shopper marketing: current insights and future research issues. *J. Retail.* 87: S29–S42. <http://dx.doi.org/10.1016/j.jretai.2011.04.007>.

Shaw, C., & Ivens, J. (2005). *Building great customer experiences*. London: Prentice-Hall.

Solomon, M. (2018). For Small Business Week: All About Millennial Consumers and Millennial-Friendly Customer Experiences. Retrieved August 10, 2018, from <https://www.forbes.com/sites/micahsolomon/2018/05/03/for-small-business-week-all-about-millennial-consumers-and-millennial-friendly-customer-experiences/#29d9e0782f91>.

Srivastava, R. K. 2008. "Changing Retail Scene in India." *International Journal of Retail and Distribution Management* 36 (9): 714–721.

Stelter, S. (2015). *Understanding real-world ROI for RFID in retail [White Paper]*. Newton, MA: ChainLink Research.

Stanley, T. L. (2016, June 19). 5 trends that are radically reshaping shopper marketing. *Adweek*. Available at <https://www.adweek.com/brand-marketing/5-trends-are-radically-reshaping-shopper-marketing-171960/>

Stein, A., Ramaseshan, B., 2016. Towards the identification of customer experience touch point elements. *J. Retail. Consum. Serv.* 30:8–19. <http://dx.doi.org/10.1016/j.jretconser.2015.12.001>.

Teixeira, J., Patricio, L., Nunes, N., Fisk, R. and Constantine, R. (2012), "Customer experience modeling: from customer experience to service design", *Journal of Service Management*, Vol. 23 No. 3, pp. 362-376.

Teed, M., M. Norman, D. Adlam, S. Goswami, B. Surgeoner, and B. Zhu. 2010. "Wal-Mart Is Coming to Guelph: Hedonic to Utilitarian Shoppers' Perceptions." *Qualitative Market Research: An International Journal* 13 (2): 130–153. doi:10.1108/13522751011032584.

Tsaur, S. H., Chiu, Y. T., & Wang, C. H. (2007). The visitor's behavioral consequences of experiential marketing: An empirical study on taipei zoo. *Journal of Travel & Tourism Marketing*, 21, 47e64.

Tynan, Caroline and Sally McKechnie (2009), "Experience Marketing: A Review and Reassessment," *Journal of Marketing Management*, 25 (5–6), 501–17.

Van Doorn, Jenny, Martin Mende, Stephanie M. Noble, John Hulland, AmyL. Ostrom, Dhruv Grewal and J. Andrew Petersen (2017), "Domo ArigatoMr. Roboto: The Emergence of Automated Social Presence in Customers' Service Experiences," *Journal of Services Research*.

V. Venkatesh, M. Morris, G. Davis, and F. Davis, —User Acceptance Of Information Technology: Toward A Unified View, *MIS Quarterly*, vol. 27, no. 3, pp. 425-478, 2003.

Verhoef, Peter C., Katherine N. Lemon, A. Parasuraman, Anne Roggeveen, Michael Tsiros and Leonard A. Schlesinger (2009), "Customer Experience Creation: Determinants, Dynamics and Management Strategies," *Journal of Retailing*, 85 (1), 31–41.

Vermeulen, I. E., & Seegers, D. (2009). Tried and tested: The impact of online hotel reviews on consumer consideration. *Tourism Management*, 30(1), 123-127.

Vijayasarathy, L. R. (2004). Predicting consumer intentions to use on-line shopping: The case for an augmented technology acceptance model. *Information and Management*, 41(6), 747e762.

Walker, R. H., Craig-Lees, M., Hecker, R., & Francis, H. (2002). Technology-enabled service delivery: An investigation of reasons affecting customer adoption and rejection. *International Journal of Service Industry Management*, 13(1), 91e106.

Wansink, Brian (2017), "Healthy Profits: An Interdisciplinary Retail Frameworkthat Increases the Sales of Healthy Foods," *Journal of Retailing*, 93, 65–78.

Weltevreden, J. W. J., & Van Rietbergen, T. (2007). Eshopping versus city centre shopping: The role of perceived city centre attractiveness. *Tijdschrift voor Economische en Sociale Geografie*, 98(1), 68–85.

Woohyoung Kim, Hyun Kim, Jinsoo Hwang, (2020), Sustainable growth for the self-employed in the retail industry based on customer equity, customer satisfaction, and loyalty, *Journal of Retailing and Consumer Services* 53 (2020) 101963.

Yang, J., 2013. Harnessing value in knowledge management for performance in buyer supplier collaboration. *Int. J. Prod. Res.* 51 (7), 1984–1991.

Zeithmal, V.A., Bitner, M.J., Gremler, D.D. and Pandit, A. (2011), *Service Marketing: Integrating Customer Focus Across the Firm*, 5th ed., McGraw-Hill, New York, NY.

Zeithaml, V.A., Parasuraman, A. and Berry, M. (1990), *Delivering Service Quality*, The Free Press, New York.

Zhong, Y. and Moon, H. (2020), “What drives customer satisfaction, loyalty, and happiness in fast-food restaurants in China? Perceived price, service quality, food quality, physical environment quality, and the moderating role of gender”, *Food Journal*, Vol. 19 No. 1, pp. 1-19.

APPENDIX 1

Smart Customer Experience Management Questionnaire (For Customers)

Note: All the responses given will be used for pure academic research only. This survey is anonymous and strictly confidential. Your cooperation in providing this information will be greatly appreciated.

	Name										
1	Gender	Male	☐	Female	☐	Other	☐				
2	Age	Less than 20	☐	20 - 30	☐	30-40	☐	40 - 50	☐	Above 50	☐
3	Education	10th Class	☐	Graduate	☐	PG	☐	Professional (Btech, MBA, MBBS, CA, CS etc)	☐	Others (Specify)	☐
5	Occupation	Govt. Job	☐	Pvt. Job	☐	Business	☐	Professional (Doctor, Software, Consultant)	☐	Others (Specify)	☐
6	Income (Annual)	Upto 500000	☐	5 to 10 lakh	☐	10 to 15 lakh	☐	15 to 20 lakh	☐	Above 20 lakh	☐
7	Which Hi-Tech Retail Store/s you recently visited (Stores using Digital Technology - SRT to improve customer Shopping Experience)										
8	How do you know about this store	Newspaper/ TV AD	☐	Friends / Family Recommendation	☐	Read on Internet	☐	Social Media	☐	Other	☐
9	Which Smart Retail Technology (SRT) you used in that store	Self-Checkouts Smart Trial Rooms / Smart Mirrors Digital Interactive Displays Smart Carts / Smart Shelves Others									

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10	This new SRT is interesting and simple to adopt & use	1	2	3	4	5
11	Presence of Smart Retail technology (SRT) has impact on the store selection for shopping	1	2	3	4	5
12	When using Smart Retail Technology (SRT) my attention was fully focused in using it	1	2	3	4	5
13	I am able to use SRT easily without help of store staff	1	2	3	4	5
14	I feel myself Self-reliant when shopping with SRT	1	2	3	4	5
14	Ready to spend extra attention and interest to know about new technology	1	2	3	4	5
16	I already use many technology-based products and services, hence comfortable in using SRT	1	2	3	4	5
17	I am always open to learn and use such new technologies	1	2	3	4	5
18	I am aware of this type of technology even before shopping here	1	2	3	4	5
19	SRT is additional burden in shopping; no value addition	1	2	3	4	5
20	I have no objection if Retailer collects my shopping data through SRT	1	2	3	4	5
21	Inclusion of such SRT is value addition to the store atmospherics	1	2	3	4	5
22	Store atmospherics are pleasant and shopping friendly	1	2	3	4	5
23	Store atmospherics made me to spend more time in shopping	1	2	3	4	5
24	Facilities and services in store are enhancing the shopping experience	1	2	3	4	5
25	This new Smart Retail Technology (SRT) is convenient	1	2	3	4	5
26	It is easy and hassle-free to use this Smart Retail Technology (SRT)	1	2	3	4	5
27	SRT is hard to understand and use	1	2	3	4	5
28	Using SRT will improve my ability to complete my shopping trip easily	1	2	3	4	5
29	I am now interested to use such SRT and shop at similar places more frequently	1	2	3	4	5
30	Smart Retail Technology (SRT) is very useful for my shopping and product selection	1	2	3	4	5
31	SRT makes shopping more fun and enjoyable	1	2	3	4	5
32	SRT has customized the shopping experience and now it fits better to my shopping needs	1	2	3	4	5
33	SRT provides me the personalized shopping experience	1	2	3	4	5
34	SRT gives a feel of empowerment while shopping	1	2	3	4	5

35	SRT gives better insight about the products and services	1	2	3	4	5
36	SRT helped me in product selection based on my exact requirements.	1	2	3	4	5
37	SRT has resulted into great value in shopping	1	2	3	4	5
38	My retail shopping experience has exceeded my expectations due to SRT	1	2	3	4	5
39	SRT has helped me to save money in my shopping	1	2	3	4	5
40	SRT has saved my time in shopping	1	2	3	4	5
41	My overall shopping experience is satisfactory due to SRT	1	2	3	4	5
42	SRT has created the feel of accomplishment / fulfilment in shopping	1	2	3	4	5
43	Retail shopping has become more rewarding due to SRT	1	2	3	4	5
44	SRT encourages to shop more than planned	1	2	3	4	5
45	I would like to visit this store again in future because of delightful shopping experience	1	2	3	4	5
46	I will share my shopping experience over social media	1	2	3	4	5
47	I will recommend this store to other people	1	2	3	4	5
48	I will introduce this SRT to my family and friends and also like to help them using it	1	2	3	4	5

APPENDIX 2

Smart Customer Experience Management Questionnaire **(For Retail Store Managers)**

Note: All the responses given will be used for pure academic research only. This survey is anonymous and strictly confidential. Your cooperation in providing this information will be greatly appreciated.

	Name of Retailer										
1	Location		City								
2	Type of Store		Types of Products Sold								
3	Which Smart Retail Technology (SRT) you used in your store	AR/ VR for Smart Trial, Smart trial rooms	Computer Vision Camera, Fusion Sensors, AI for Cashier less Checkouts	Smart Carts/ IoT based Shelves	Others (Specify)						
4	Time from SRT introduced in your Store	Less than 1 Yr		1 to 2 Yrs		2 to 3 Yrs		3 to 4 Yrs		More than 4 Yrs	

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5 It is easy to adopt new SRT in store	1	2	3	4	5
6 Training the staff and customers about SRT is easy and beneficial for the store	1	2	3	4	5
7 SRT is useful for the store operations as well as customer both	1	2	3	4	5
8 SRT has ensured smooth and seamless functioning of the store	1	2	3	4	5
9 Implementation of SRT needs many changes in store atmospherics.	1	2	3	4	5
10 SRT has helped the store to increase the involvement of customers in various store functions	1	2	3	4	5
11 Presence of Smart Retail technology (SRT) has increased Customer Satisfaction	1	2	3	4	5
12 Presence of Smart Retail technology (SRT) has increased Customer Engagement	1	2	3	4	5
13 Presence of Smart Retail technology (SRT) has improved Customer Experience	1	2	3	4	5

14	Implementation of SRT is easy and hassle-free	1	2	3	4	5
15	Customers are comfortable and happy to use SRT in store	1	2	3	4	5
16	SRT has enhanced Customer Loyalty	1	2	3	4	5
17	SRT has strengthened the Customer Advocacy	1	2	3	4	5
18	SRT results into higher employee productivity	1	2	3	4	5
19	SRT has resulted into achieving better store performance	1	2	3	4	5
20	Smart Customer experience through SRT has helped the store to achieve higher profitability	1	2	3	4	5
21	Smart Customer experience through SRT has strong impact on customer Satisfaction & Loyalty	1	2	3	4	5
22	SRT is a powerful tool for enriching the customer shopping experience	1	2	3	4	5

Impact of SRT introduction in the Store resulted into

Please Mention the % Change if answer is Yes

23	Increased Customer Footfall	Yes		No		
24	Increase in Sales	Yes		No		
25	Increase in Overall Revenue	Yes		No		
26	Increase in Overall Profitability	Yes		No		