Chapter 1

Introduction

1.1 INTRODUCTION

In this 21st century, mobile phones are anywhere and everywhere. People from all parts of the world, whether belonging to a developed or developing nation, have got adopted to use mobile telephony as the major form of communication. India, in particular, is at the forefront of this exponential growth and adoption of mobile telephone technology. The massive penetration of advanced mobile phones (such as smartphone, phablets, and tablets) and revolutionary infrastructure development in wireless mobile internet technology (i.e. 2G, 3G, and 4G) have changed the way people use their mobile phones in India. A smartphone is defined as “a mobile phone that offers advanced capabilities, often with PC-like functionality, and that is no longer limited to making voice calls” (Lee, 2014). The high adoption of smartphones has triggered the use of advanced mobile telephony features such as a) Making a phone call (via Audio/Video calls), b) Sending and receiving SMS/MMS/E-mails, c) Information search, d) Social networking (like Facebook / Twitter), e) Listening and downloading music contents, f) Mobile payments, g) Booking and registering of travel tickets/hotel room reservations, h) Conducting banking transactions and i) Conducting business to consumer (B2C), Business to business (B2B) and Consumer to Consumer (C2C) shopping transactions.

In the last five years, the rise in popularity and development of what is known as Mobile applications has turned the tide on the mobile commerce (m-commerce). M-commerce is seen as the next step in the evolution of e-commerce. In order to utilize this mode of commerce, various mobile applications were developed. The mobile application is also known as ‘mobile apps’ which is a software, is specifically designed to run on advanced mobile devices (such as smartphone, phablets, and tablets). There are a variety of mobile apps available for different purposes which can be easily downloaded in smartphones from application stores such as Google Play Store, Apple iOS App Store, Amazon App store, etc. Among the uses, mobile shopping has been one of the most favourite application for the smartphone users. When looked at an Indian context, the most popularly used mobile apps for shopping purposes are a) Flipkart, b) Amazon, c) Snap Deal, d) e-Bay, e) Paytm, f) Big Basket, g) Myntra etc. Similarly, other
purposes like payments of electricity/ water/ DTH bills and mobile sim recharge etc. done via mobile apps such as a) Paytm, b) Mobikwik, c) Freerecharge to name a few. These days, mobile apps are also designed for listening and downloading music contents through popular apps such as a) Ghana, b) Saavn and much more.

Table 1.1 List of Most Popularly Used Apps in India for Various Purposes.

<table>
<thead>
<tr>
<th>Popularly used apps in India</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>i.) Flipkart, ii.) Amazon, iii.) Snap Deal, iv.) E-Bay, v.) Paytm, vi.) Big Basket, vii.) Myntra etc.</td>
<td>For shopping of various goods (consumer electronic, clothes, )</td>
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<tr>
<td>i.) Paytm, ii.) Mobikwik, iii.) Freerecharge etc.</td>
<td>For payments of electricity/ water/ DTH bills and mobile sim recharge purposes the mobile apps such as i.) Paytm, ii.) Mobikwik, iii.) Freerecharge etc.</td>
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<tr>
<td>i.) Ghana, ii.) Saavn etc.</td>
<td>For listening and downloading music contents through the mobile apps</td>
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<tr>
<td>i.) IRCTC (Indian Railway Catering and Tourism Corporation), ii.) Makemytrip, iii.) Red Bus etc.</td>
<td>For travel ticket booking</td>
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<tr>
<td>i.) OYO Rooms, ii.) Zo rooms, iii.) Trivago etc.</td>
<td>For Hotel room reservation purposes</td>
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<tr>
<td>i.) Zomato, ii.) Eazy Diner, iii.) Dine out etc.</td>
<td>For restaurant booking purposes</td>
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<tr>
<td>i.) Food Panda, ii.) Just Eat, iii.) Grofers etc.</td>
<td>For food ordering purposes</td>
</tr>
<tr>
<td>i.) Google news, ii.) Times of India, iii.) News in shots, iv.) The Hindu etc.</td>
<td>For news reading purposes</td>
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*(Source: Flurry Analytics, 2015)*

Besides these uses, m-app is also quite famous among its users for travel ticket booking purposes with the apps such as a) IRCTC (Indian Railway Catering and Tourism Corporation), b) Makemytrip and c) Red Bus. The current trend is to use m-apps for even what was once thought as impossible by the traditional commerce
supporters that are using mobile apps for Hotel room reservation purposes such as a) OYO Rooms, b) Zo rooms, c) Trivago and the numbers are growing. There was the myth that advanced mobile device are used by the people only for web browsing purposes, but this myth was demoralized by the report of Yahoo-owned mobile analytics research firm called “Flurry Analytics.”

According to Flurry Analytics report (2015) the Indian advanced mobile device users’ usage style has changed from mere web browsing to various other purposes a) personalized app usage (for smartphone personalization use like emoji, user-friendly keyboards, high definition themes, high definition wallpapers, etc.), b) News and reading app usage (for news reading purposes like Google news, times of India, news in shots, the Hindu, etc.), c) Photography app usage (for photo viewing and editing purposes like photo director/editor, snap seed, selfie city, photo editor collage, etc.), and d) Shopping apps usage (for shopping purposes like 1. Flipkart, 2. Amazon 3. Snap Deal 4. e-Bay etc.) are the popular app categories used in India.

Recently, many e-retailers of India such as Flipkart and Amazon started promoting discount sales exclusively on mobile applications platform. A recent report says 50% (Snap Deal) and 35 % (Myntra) of sales were driven by mobile channel. Online retail sales via mobile account for 27% of total Asia-Pacific online retail sales in 2014. In India 2014 was a year of massive investment in e-commerce sector from all the three major e-commerce players (Such as Flipkart, Amazon, Snap deal). Promotions such as Big apps shopping day is to drive consumers shop through mobile in India (Imran, 2014) in which Snap Deal gets 50% of its sales through Mobile Application.

Based on the Flurry Analytics report (2015), it is apparent that the top three app categories used in India are a) Personalization apps, b.) News and Magazines apps and c) Photography apps. All these three categories has had a growth of 533%, 311 %, and 178%, respectively, for the year 2014-2015. Flurry Analytics report also shows that usage of mobile shopping apps had increased in India during the year 2015. Indians shop through mobile app almost round the clock. This tremendous growth in the usage of apps is because of the high penetration of advanced mobile devices (such as a smartphone, phablets, and tablets) in India. This throws up a great scenario for market researchers and m-commerce proponents into explore and identify potential gold mines among the user behaviour.
This research is specially focussed on examining the determinants of mobile shopping app adoption among Indian advanced mobile device users (i.e. smartphone, tablet, and phablet users). Total of Asia Pacific’s (i.e. China, India, Japan, South Korea and Australia) online retail revenues will be doubled from $733 billion dollars in the year 2015 to 1.4 trillion dollars by the year 2020 (Forrester report, 2014). This shows the massive unchartered territories that is lying ahead for researchers. From the examination of previous studies, various crucial factors have been identified and that is supposed to affect consumers’ adoption of mobile technology for variety of purposes such as a) Mobile ticketing adoption (Lu et al., 2015; Dickinson et al., 2014; Liu and Law, 2013), b) Mobile payment adoption (Mallat, 2007; Kapoor et al., 2015; Koenig-Lewis et al., 2015; Thakur and Srivastava, 2014), c) Mobile Internet technology (such as 4G, 3G, 2G, etc.) adoption (Rawashdeh, 2015; Velmurugan and Velmurugan, 2014; López-Nicolás et al., 2008; Kim, 2008), d) Mobile banking adoption (Baptista and Oliveira, 2015; Hanafizadeh et al., 2014; Dash et al., 2014), e) Mobile coupon adoption (Ha and Im, 2014; Im and Ha, 2013; Dickinger and Kleijnjen, 2008), f) Mobile advertising adoption (He et al., 2013; Tsang et al., 2004; Leppaniemi and Karjaluoto, 2005), g) Mobile learning adoption (Yang, 2013; Raman and Don, 2013), h) Mobile health care adoption (Chib et al., 2015; Deng et al., 2014; Kim et al., 2016) and i) Mobile shopping adoption (Wu and Wang, 2006; Chen and Lauffer, 2009; Yang, 2010; Yang and Forney, 2013; Taylor and Levin, 2014; Agrebi and Jallais, 2015; Wong et al., 2012). These studies conclude that mobile technologies have a huge potential in doing a profitable business and generating new immense business opportunities in the future. However, very few studies have investigated on mobile app specific shopping behaviour. Agrebi and Jallais (2015) in their study used Technology Acceptance Model (TAM) to explore the factors that affected mobile shopping adoption (MSA) through smartphone among French consumers. Their study concluded that Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Satisfaction (SAT), and Perceived Enjoyment (PENJ) as important predictors for MSA through smartphone. Taylor and Levin (2014) study concluded that the frequency of store visits and interest in the app are the two major factors that affect mobile shopping app adoption among USA women shoppers. A study by Holmes et al (2013) came up with Convenience and Accessibility as the major factors that affect smartphone MSA among UK consumers. Venkatesh et al (2003b) states that consumer decision making on technology adoption differs across context, so there is a need for a separate investigation in a specific technology context.
to have a clear understanding of the factors that affect its adoption. This research study specifically focusses on the factors that affect mobile shopping app technology adoption in Indian context. Shopping through a mobile app is new to Indian consumers. So, it is necessary for both m-commerce proponents as well as researchers to understand the factors that affect MSA through the app. In order to determine the factors that affect mobile shopping app adoption, a renowned theory that is widely used in technology adoption research works known as the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2012) is used in this research as the theoretical base. The reason for using the UTAUT2 model of Venkatesh et al (2012) is because of its a) strong explanatory power, b) it is specifically designed for consumer context technology adoption research, c) there is a need for its extension with other relevant variables and d) also there is a need for its validation in different technological context. Besides using UTAUT2, this research has also utilized extended UTAUT2 model proposed by Slade et al (2014). This extended UTAUT2 model is used as the skeleton for the proposed model of the study. Slade et al (2014) extended UTAUT2 from the original UTAUT2 model developed by Venkatesh et al (2012). Slade et al (2014) model came up with additional five new variables such as self-efficacy (SEF), Personal Innovativeness (PINNO), Trialability (TRI), Perceived Risk (PR) and Trust (TRST) in mobile payment (m-payment) context through a conceptual framework. Both, Venkatesh et al (2012) and Slade et al (2014) recommended for empirical investigation of their model in a different technology context. This study applied these two models in mobile shopping app adoption context. This study has also developed a new model by extending the extended UTAUT2 model of Slade et al (2014) with three new factors such as 1. External social influence (ESI) 2. Flow (FLO) and 3. Personal product involvement construct (i.e. involvement with electronic gadgets and apparel products).

This thesis is divided into five major chapters i.) Chapter one consists of an introduction to the background of the study, ii.) Chapter two consists of a review of various past research works and literature, iii.) Chapter three consists of the methodology adopted for the study, iv.) Chapter four consists of data analysis and its results and v.) The final chapter consists of findings of the study and conclusion.
1.2 MOBILE COMMERCE


Mobile devices have been the fastest adopted consumer products (Chen, 2000). Singh et al (2010) found that there is a tremendous future for 3G- services in India because consumers have shown a positive attitude towards its usage. M-commerce adoption differs across the globe depending on the countries, technological progress and preference of their citizens. Studies have proven the moderating effect of culture in m-commerce adoption (Zhang et al., 2012). According to Senn (2000), m-commerce can be broadly divided into three categories namely 1. Transactions Management (for e.g.: Payments, Shopping) 2. Digital Content delivery (for e.g.: E-Mail, Information browsing,) 3. Telemetry Services (for e.g. Status monitoring, Interactive Marketing). Lee and Lee (2006) in their attempt to study m-commerce applications and their perceived importance among m-commerce users, grouped m-commerce applications in five important categories 1. Information and Data Accessing, “… which includes browsing of news, directory services, maps, traffic and weather report”. 2. Communication and Interaction, “... includes short messaging, e-mailing, chat room and video conferencing applications”. 3. Entertainment, such as music, gaming, video and picture downloads. 4. Transactions functions, such as banking, shopping, auction, mobile wallet, booking, and reservations, etc. 5. Telemetry, which is to use the mobile device to communicate with other devices, similar to the functions of a "handheld"
Mahatanankoon et al (2004) classified five specific m-commerce features which are more advantageous compared to e-commerce they are 1. ‘Always on’ which means users can carry out their transactions comfortably through the internet enabled mobile device and can stay connected 24/7. 2. A ‘Location-centric’ which means Global Positioning System (GPS) software, a built-in mobile application which benefits m-commerce providers to locate its customers and send location specific information and users can get location-based customized offers directly to their mobile phone. 3. ‘Convenience’ which means consumers need not have to plan their time specifically for shopping and locate a place to access e-commerce, rather they can access anywhere any time conveniently through m-commerce. 4. ‘Customization’ which means with the use of this technology the m-commerce providers can easily share customized information to their target customers by taking their previous purchase history into consideration and identifying their buying habits. These help the customer to shortlist the alternatives quickly. 5. ‘Identifiability’ which means the mobile phone is used by the individual, so it becomes easy for m-commerce providers to identify personally and exclusively target its customer.

Mahatanankoon et al (2005) developed 44 items of the mobile application. The mobile shopping software’s easily installable on mobile devices, also known as mobile apps, has rapidly grown and increased the popularity of advanced mobile devices (Rao and Troshani, 2007). Simple apps, with high usability, searchability, browseability, the the navigable interface has given digital shoppers a delightful experience and satisfaction (Mulpuru, 2014). Ubiquitous nature of mobile is the key factor for promoting e-business. It is important to know from the consumer’s point of view apart from information seeking, are consumers using a smartphone application for shopping? What are the important factors that drive them to shop through a mobile application and what hinders them to use mobile apps? The outcome of these research questions will help Indian retailers to enhance their business in the mobile shopping channel.

1.3 MOBILE COMMERCE (M-COMMERCE) SCENARIO IN INDIA

Mobile-commerce in India is still at a nascent stage, but some research firm’s reports have shown a tremendous increase in adoption of m-commerce among Indian consumer (Kaur, 2015). According to a Forbes report (2015), India is witnessing a shift from e-commerce to m-commerce (Natansan, 2015). According to the Deloitte TMT
India Predictions (2016), the new Indian government plans on building smart cities would bring investments around $150 billion dollars and M-commerce in India has an enormous potential which is justified by the report of Frost and Sullivan report (2014) which quotes that, by the end 2018 Indian m-commerce market is expected to reach a record revenue of $1.26 billion US Dollars with 72.5 million users (Benoy, 2014). India will have an m-commerce market of $19 billion USD by the year 2019 (Zinnov report, 2015).

According to Boston Consulting Group report (2015) that the Internet will contribute 5% GDP to India by the year 2018. There were around 260 million total internet users in India in the year 2015, and it is predicted to grow up to 650 million by the year 2020 (BCG and RAI report, 2016). More than 50% of the internet in India is accessed from a mobile device (e-marketer report, 2016). There is a mix of opinions on perceived value among Indian consumers towards the adoption of mobile Internet. Mobile internet to contribute 70 to 80% of the total online population, compared to 60% in the year 2013. Rural consumers have already started using the internet through a mobile bypassing PC. Thirty percentage (30%) of mobile internet user’s in urban India uses financial service weekly through their smartphone (Ericsson consumer lab report, 2015). Major telephone operators in India are rolling out 4G plans across the country which will boost m-commerce in coming years (Deloitte TMT India Predictions 2016 report). According to Research and Markets report (2015), shows that there is an increase in the online mode of travel booking via mobile phone compared to offline booking and the Indian travel sector will witness compound annual growth rate (CAGR) of about 14% during the year 2015-2019. The significant contribution to the growth in travel sector would come from mobile travel purchases.

1.4 SMARTPHONE PENETRATION IN INDIA

As per e-marketer report (2014) smartphone user base in India will reach 279.8 million in the year 2018. Over 103.6 million units of smartphones were shipped to India in the year 2015 (e-marketer, 2016). Ericsson consumer lab report (2015) shows adoption of smartphone application services has become a new trend among Indian consumers and also there is an increase in adoption of smartphone among people of the lower socioeconomic segment in India. There is a tremendous increase
in adoption of smartphone among old aged people and females in urban India (Ericsson consumer lab report, 2015).

According to an e-marketer report (2014) predicted that smartphone user’s penetration in India would cross 279.2 million by the year 2018. Smartphone penetration in India would increase at a CAGR of 36% in the year 2019 (Zinnov report, 2015). Forrester report (2014) also suggests that smartphone and tablet ownership in India will be doubled in the year 2017 due to changes in consumer lifestyle.

1.5 MOBILE-SHOPPING IN INDIA

Mobile shopping usage has recently started gearing up in India. The Nielson consumer insights report (2015) shows that the two main reasons behind popularity of mobile shopping through apps in India is because of high penetration of smartphones and extensive campaigns conducted from e-commerce companies in India to promote mobile apps (such as Big app shopping days, holiday sales and festivals sales promotion through mobile channel). According to Forrester Asia-Pacific online retail report of 2016 states that 50% of online retail sales occur via a mobile channel in India and it is expected to reach $51 Billion USD by the year 2020 (Varon, 2016). The single largest contributor to mobile Internet revenue growth in the next several years will be the apps, content, and services component of the ecosystem, driven by the rapid expansion of mobile shopping and advertising (BCG report, 2015). Total Asia, pacific online retail sales via mobile, accounted for 27% in the year 2014, and it is predicted to increase up to 62% by the year 2019 (Meena, 2014). According to a joint report of e-marketer, Retailing Association of India (RAI) and PricewaterhouseCooper (PwC) (2016) more than 80 million people shopped through the online channel during the year 2015 in India and also around 39% of people shopped through online on a weekly basis in India. According to a joint report of BCG and RAI (2016) predicts that by the year 2020 Indian online retail sector will have a market size of $45-50 billion USD. According to Ericsson Consumer Lab 2014 survey report, Flipkart Shopping App was the third most used apps among Indian smartphone users with 11.17 % next to Paytm (12.44%) and Hike (13.93%). According to the Forrester report by Meena (2014) reports that total Asia-Pacific online retail sales via mobile accounted for 27%, and it is predicted to increase up to 62% in the year 2019.
The Nielsen report (2015) revealed that in India users from non-metro were found to be more engaged in mobile shopping apps compared to metro users. The majority of the products purchased through mobile channel were electronic and apparels (BCG and RAI, 2016). More than 70% of Indian shoppers search online before offline purchase (BCG and RAI, 2016). The cross-border shopping has also started gearing up in India around 3.8 million people have been reported to shop across the borders (PayPal report, 2015). The most preferred device for cross-border shopping is not personalized computer/ laptop/ notebook devices, but mobile devices (PayPal report, 2015). Age factor does not seem to have a significant impact on the online shopping adoption among Indian consumers as per joint report of BCG and RAI (2016). Price and convenience are the major factors that drive Indian consumers to shop online (Palkar, 2015). Apart from the price, other factors such as assortment, privacy, customization, Informativeness, availability, convenience, and cash on delivery are the major factors that affect digital shopping among Indians.

According to a Nielson report (2016), India ranked number one in ‘cash on delivery’ (COD) concept of online sales. The ‘cash on delivery’ is defined as the cash payments made at the time of delivery of the product. This is because of low trust on sharing debit/credit card information to an online (Nielson insights report, 2016). Almost 83% of online sales in India occur in COD concept. More than 60% of online shoppers in India shops through their mobile/smartphone devices (Nielson report, 2016). More than 60% of Indian online shoppers feel the risk of product fraud (Nielson report, 2016).

In the recent years, there is a paradigm shift from the perspective of the business organization towards the creation of customer experience. From the multichannel marketing approach, the focus has been diverted to what is popularly known as “Omnichannel approach”. Frost and Sullivan define omnichannel as “seamless and effortless, high-quality customer experiences that occur within and between contact channels”. According to the Massachusetts Institute of Technology (MIT) report (2013), omnichannel will act as a central force for e-commerce business process in future (Green, 2014). The Manthan Analytics also (2015) reports that “customer plays an important role in omnichannel wherein systems and processes facilitate customers and customer’s dictates on transactions” (Nayar, 2015). Omnichannel uses customer oriented business analytics as its base which helps in providing unique and more personalized customer experience under various scenarios (Everett, 2015). From the
present research perspective, it becomes imperative to look into these aspects as a mode of the business strategy used by mobile commerce providers towards app users. According to PricewaterhouseCoopers report (2016), shows that Indian consumers are slowly shifting towards the omnichannel way of shopping. The frequency of shopping is high through online mobile/smartphone channel when compared to a personal computer (PC) (Palkar, 2016).

1.6 NEED FOR THE STUDY

Previous studies have explored several factors of mobile technology adoption such as mobile ticketing, mobile payment, mobile banking, mobile advertising, and also mobile coupons. Smartphone shopping application adoption will create immense mobile commerce opportunities such as location-based marketing which can track the consumer’s location and try to market nearby sellers’ product ubiquitously (Shankar et al., 2016). From the literature review of this study shows that the majority of them has applied Technology Acceptance Model (TAM) (Davis, 1989) as their theoretical base (see chapter 2) whereas Venkatesh et al (2012) developed a new model called UTAUT2 model which was specially developed for research on technology adoption on general consumer context was rarely applied. Many scholars have applied, and extended UTAUT2 in a different mobile technology context, such as Slade et al (2013) extended the UTAUT2 model in a mobile health care app’s context wherein they suggested to confirm the validity of their proposed mechanisms in m-commerce context. Slade et al (2014) also extended the UTAUT2 model in m-payment context and recommended to empirically validate their model in a different technology context. Alalwan et al (2014) applied UTAUT2 model in Internet banking adoption context and recommended for more research on different mobile technology adoption using UTAUT2 theory. The majority of the studies in Information System (IS) adoption context have used students as sample (Compeau et al., 2012) and there is a need for more investigation on the factors that affect mobile technology adoption among different professions (Al-Debei and Al-Lozi 2014; Baabdullah et al., 2014; Chen and Lauffer, 2009; Harris et al., 2016; Son et al., 2012). The main reason to use the UTAUT2 model in this research is because it was proved to have substantial improvements in the variance explained in behavioural intention in studies of Venkatesh et al (2012) and Oechslein et al (2014).
UTAUT2 model was proved to have good explanatory power in consumer context (Venkatesh et al., 2012). However, from the literature review, this research found that UTAUT2 model was rarely applied in the context of mobile apps/mobile shopping apps. This study compares the UTAUT2 models of Venkatesh et al (2012) and Slade et al (2014) in m-shopping context. The UTAUT2 theory was also proved to have good explanatory power (Venkatesh et al., 2012; Slade et al., 2015). There are several questions that beckon answers such as ‘Are consumers are feeling it comfortable using the App? Which factors lead to adopting mobile application for shopping purpose? Hence, this study tries to understand mobile shopping application adoption among a select group of Indian populace via the Unified theory of acceptance and usage of technology 2 (UTAUT2) model as the theoretical base.

1.7 STATEMENT OF THE PROBLEM

Recently few e-commerce companies in India (such as Flipkart and Myntra) adopted an app only strategy (i.e. shopping only through mobile apps) by shutting down their websites completely. But this strategy did not seem to have worked for them because users do not want to have too many apps installed on their phones. This problem might be due to recent penetration of smartphone among Indian consumers (i.e. they are new to adopt smartphone), and there would be a lack of understanding of apps such as where to download, how to install etc. The Indian e-retailing giant ‘Flipkart’ relaunched its mobile websites in the month of November 2015 due to a low number of transactions through mobile apps. This indicates that there are some issues that hinder users to adopt mobile shopping apps.

Increasing adoption of smartphone and 2G/3G technology in India has brought the attention of e-retailers to promote their product and services through mobile wireless technology. It is important to know how many of the Indian shoppers use their smartphone application for shopping. Venkatesh et al (2003a) states that consumer decision making on technology adoption differs across context, so there is a need for a separate investigation in specific technological context to have a clear understanding of the factors that affect mobile shopping app adoption. Venkatesh et al (2012) and Slade et al (2014) strongly recommends to validate their UTAUT2 empirically and extended UTAUT2 models in different technologies, cultural context and also to extend their models with other relevant variables. From the literature, it has been observed that none
of the previous studies have extended the UTAUT2 model in mobile shopping app adoption context. Mobile shopping related studies (Agrebi and Jallais, 2015; Groß, 2015a; Einav et al., 2014; Ferreira, 2014; Taylor and Levin, 2014; Yang and Forney, 2013; Wong et al., 2012; Yang, 2010; Chen and Lauffer, 2009; Wu and Wang, 2006) have concluded that business transactions through mobile device have a huge potential in making profitable business and generating a new business opportunities in the future. However, very few studies which have investigated on smartphone app specific shopping behaviour. Groß (2015a) tried to explore the factors that affect mobile shopping adoption through app among German smartphone users wherein he found Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Perceived Enjoyment was found to have a positive significant influence on Attitude towards mobile app adoption for shopping. Ferreira (2014) investigated the factors that affect supermarket app adoption among Portugal consumers wherein he found Perceived Usefulness, Personalization, Price, and Always on as important factors. Einav et al (2014) observed, the mobile shopping behaviour of USA consumer through mobile analytics wherein he states that ease of access, ubiquity, impulse purchasing motive and high internet usage habit are the important factors that drive USA consumer to adopt mobile shopping, and there is a need for more research to have a clear understanding of retail mobile app adoption behaviour in future. Nysveen et al (2015) reviewed literature related to mobile services wherein they concluded that there is a need for more research on mobile app adoption behaviour. Ki-Heung (2015) recommended investigating the effect of involvement towards mobile shopping. Nysveen et al (2015) in their review also states that there is a need for more research on the effect of involvement towards product type and flow on behavioural intention in mobile app context. The mobile shopping decision also depends on the product category (Keels, 2012; Song, 2009). There is a need for more research on the effect of involvement towards different product type (Keels, 2012; Nysveen et al., 2015). Involvement acts as a motivational construct and can predict future behaviour (Zaichkowsky, 2012).

Mobile can cause a dynamic shift in shopping goal pursuit (Shankar et al., 2016). Shankar et al (2016) states that there is a need for more exhaustive research on mobile shopping and especially for mobile apps, because a smartphone user installs several mobile apps in them positioning a particular app on the first screen of the smartphone by the user is a challenging task for marketers. There is a limited knowledge exists on mobile app adoption behaviour (Shankar et al., 2016). Agrebi and Jallais
(2015) in their study used Technology Acceptance Model (TAM) to explore the factors that affected mobile shopping adoption (MSA) through smartphone among French consumers. Their study concluded that Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Satisfaction (SAT), and Perceived Enjoyment (PENJ) as important predictors for MSA through the smartphone. Taylor and Levin (2014) study concluded that the frequency of store visits and interest in the app are the two major factors that affect mobile shopping app adoption among USA women shoppers. A study by Holmes et al (2013) came up with Convenience and Accessibility as the major factors that affect smartphone MSA among UK consumers. Groß (2015a) recommended examining the effect of factors such as Personal Innovativeness and Social Influence on behavioral intention towards mobile app adoption. There is a lack of studies on a mobile app-based shopping adoption in the Indian context. Singhal and Vaibhav (2015) tried to investigate the factors that affect mobile shopping adoption through smartphone app among Indian college students wherein they found Perceived Usefulness, Perceived Ease of Use and Price Value were found as major factors. They recommended to investigate more on shopping app adoption context. This research study specifically focuses on the factors that affect mobile shopping app technology adoption in the Indian context.

1.8 SIGNIFICANCE OF THE STUDY

This study examines the determinants of mobile shopping apps adoption by extending UTAUT2 model because Venkatesh et al (2012) who developed UTAUT2 model states that UTAUT2 model should be tested in different countries with different technologies, and it should be extended with other relevant factors in a consumer context. Many scholars have applied, and extended UTAUT2 in different mobile technology context such as Slade et al (2013) extended the UTAUT2 model in a mobile health care app’s context wherein they suggested to confirm the validity of their proposed mechanisms in m-commerce context. Slade et al (2014) also extended the UTAUT2 model in m-payment context and recommended to empirically validate their model in a different technology context. Alalwan et al (2014) applied UTAUT2 model in Internet banking adoption context and recommended for more research on different mobile technology adoption using UTAUT2 theory. Baabdullah et al (2014) applied UTAUT2 model to predict m-technologies adoption among Saudi Arabians wherein
they suggested to include samples from different professions apart from students to generalise the result in future research. The main reason to use the UTAUT2 model in this research is because it was proved to have substantial improvements in the variance explained in behavioural intention in studies of Venkatesh et al (2012) and Oechslein et al (2014).

This study applied UTAUT, UTAUT2, IDT, Flow theory and Involvement theory to examine the adoption of SSA (Smartphone Shopping Applications) among working professionals living in Bengaluru city. This study tries to extract the information on the explanatory power of theories (i.e. UTAUT, UTAUT2, IDT, Flow theory and Involvement theory) in explaining the mobile shopping app adoption behaviour. This study also contributes to the marketing management academia by providing an empirical example of shopping-related technology adoption. To date, the studies of (Yang, 2012; Zhong, 2013; Yang and Forney, 2013; Alda’s-Manzano et al., 2009; Agrebi and Jallais, 2015; Yang, 2010; Lu and Su, 2009; Groß, 2015a) had explored about mobile shopping technology adoption behaviour in the domain of Information and marketing management. Wherein the studies of Groß (2015a), Einav et al (2014), Taylor and Levin (2014) and Agrebi and Jallais (2015) had tried to explain the factors that affect adoption behaviour of smartphone shopping apps (SSA) to some extent.

The recent research firm reports (e-marketer, 2014; BCG report, 2015; Ericsson Consumer Lab survey, 2014; Forrester report, 2014) on growing smartphone application adoption for shopping purposes have triggered the need for studies on mobile shopping app adoption behaviour. The clear understanding of factors that affect smartphone shopping apps adoption, behaviour can help current m-commerce companies and developers to improve/customize their products and also will help them to develop an effective promotion strategy according to the needs of customers (Shanker et al., 2010). Einav et al (2014) recommends for more research on other relevant variables that affect m-shopping adoption through a smartphone app (Einav et al., 2014). Grob (2015) extensively reviewed articles related to m-shopping and recommended for more investigation on m-shopping through a smartphone device in future studies. Ozok and Wei (2010) also recommended for more research on m-shopping through an advanced mobile devices. Shankar et al (2016) state that “From a technology standpoint, mobile enables the delivery of contextually relevant information (e.g., location, time, speed of travel, date events, and weather) to shoppers”. If the
consumer shops through mobile devices, it is easy to provide personalized information through the use of data analytics and location-based marketing (Shaker et al., 2016) so there is a need for more research on the effect of security, privacy, policy and trust on m-shopping adoption in the future studies (Grob, 2015). Bilgihan et al (2015) recommends testing the effect of flow on purchase intention through smartphone shopping context. After a thorough meta-analysis on e-shopping acceptance, Ingham et al (2015) found that flow act as an important element in e-shopping acceptance. Nysveen et al (2015) in their review paper on mobile apps also recommended for more investigation on the effect of FLO on mobile apps adoption. Kim et al (2007), Baabdullah et al (2014) and Harris et al (2016) concluded that there is a need for more research on the adoption of the mobile service among different professionals. This study will help in providing guidelines to m-retailers on understanding the adoption behaviour of smartphone shopping related apps among Indian consumers. This study has the potential to contribute to the field of marketing literature by providing an empirical example on the factors that affect shopping through the use of mobile app technology.

1.9 RESEARCH QUESTIONS

The present research was motivated by an increase in smartphone penetration and use of mobile apps for shopping purposes. This study attempts to answer the main questions: “What drives consumers use mobile apps for shopping?” The increase in adoption of a smartphone application for shopping purposes and its popularity among Indians was the primary reason which triggered this research study. This current research attempts to answer the important questions: why and what factors affect Indians to use mobile shopping app adoption? To answer this, the following questions are generated

1. What is the explanatory power of existing UTAUT2 models [i.e. UTAUT2 models of Venkatesh et al (2012) and Slade et al (2014)] in mobile shopping app adoption context?
2. Does extending the existing model by incorporating elements such as external social influence (ESI), flow experience (FLO) and product involvement (i.e. involvement towards electronic gadgets and apparel product) increases the UTAUT2 model’s [i.e. UTAUT2 models of Venkatesh et al (2012) and Slade et al (2014)] explanatory power?
3. Do demographic variables such as gender, age, experience, and profession have any moderating effect on the proposed extended UTAUT2 model?

1.10 OBJECTIVES OF RESEARCH

1. To explain the variance observed in the existing UTAUT2 models of Venkatesh et al (2012) and Slade et al (2014) by empirically testing them in mobile shopping app adoption context.

2. To develop a model by integrating relevant variables (such as external social influence (ESI), flow (FLO), and product involvement (Involvement with electronic gadgets and apparel products)) into the extended UTAUT2 Slade et al (2014) model and validating it in mobile app shopping adoption context.

3. To identify the effect of moderating variables such as gender (GEND), age (AGE) Experience (EXP) and profession (PROF) towards mobile app shopping adoption.

1.11 HYPOTHESES DEVELOPMENT

The unified theory of acceptance and use of technology 2 (UTAUT2) proposed by Venkatesh et al (2012) was used as a guiding principle for this research. Mobile shopping application (MSApp) is a type of information technology (IT) through which a user can shop using it through an advanced mobile device (i.e. Smartphone). The UTAUT2 model, which has been widely used to examine user’s adoption of various mobile technologies such as mobile e-book adoption (Yee, 2015), Pervasive information system (PIS) adoption (Segura and Thiesse, 2015), m-internet adoption (Faria et al., 2014; Baabdullah and Williams, 2013), mobile learning adoption (Yang, 2013; Raman and Don, 2013), mobile health care adoption (Slade et al., 2013), m-banking adoption (Baptista and Oliveira, 2015), mobile app adoption (Hew et al., 2015; Kourouthanassis et al. 2014; Kit, 2014) and mobile payment adoption (Slade et al., 2014) was used as a theoretical background for this study. Venkatesh et al (2012) who developed UTAUT2 model has recommended testing the UTAUT2 model with different countries, with different technologies and also to extend the UTAUT2 model with other relevant factors in a consumer context. UTAUT2 has seven independent constructs such as PE, EE, SI, FC, PV, HM and HAB, which leads to two dependent variables such as Behavioural Intention (BI) and Use Behaviour (USG).
The UTAUT2 (Venkatesh et al., 2012) was developed specifically to examine the adoption of technologies in the consumer context. It is also known for its strong explanatory power (Segura and Thiesse, 2015; Goulão, 2014; Oechslein, et al., 2014; Venkatesh et al., 2012). Furthermore Hew et al (2015) empirically proved that UTAUT2 model is applicable in mobile app context. Slade et al (2014) further extended the UTAUT2 model with five extra constructs such as Self-efficacy (SEF), Personal Innovativeness (PINNO), Perceived Risk (PR) and Trust (TRST) in mobile payment (m-payment) context and recommended to empirically validate their model in different technology adoption context. So based on above literature, following hypotheses are formulated

H1: All the core constructs of the UTAUT2 model of Venkatesh et al (2012) will have a significant influence on mobile shopping app adoption.

H1a: Performance expectancy (PE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1b: Effort expectancy (EE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1c: Interpersonal social influence (ISI) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1d: Facilitating conditions (FC) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1e: Facilitating conditions (FC) will have a significant influence on use behaviour towards the adoption of a mobile app for shopping.

H1f: Hedonic motivation (HM) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1g: Price value (PV) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1h: Habit (HAB) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H1i: Habit (HAB) will have a significant influence on use behaviour towards the adoption of a mobile app for shopping.

H1n: Behavioural Intention (BI) towards mobile app for shopping will have a significant influence on use behaviour (USB).
H₂: All the core constructs of the extended UTAUT2 model of Slade et al (2012) will have a significant influence on mobile shopping app adoption.

H₂a: Performance expectancy (PE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂b: Effort expectancy (EE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂c: Interpersonal social influence (ISI) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂d: Facilitating conditions (FC) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂e: Facilitating conditions (FC) will have a significant influence on use behaviour towards the adoption of a mobile app for shopping.

H₂f: Hedonic motivation (HM) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂g: Price value (PV) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂h: Habit (HAB) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂i: Habit (HAB) will have a significant influence on use behaviour towards the adoption of a mobile app for shopping.

H₂j: Trust (TRST) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂k: Perceived risk (PR) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂l: Mobile application self-efficacy (MSE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂m: Personal innovativeness (PINNO) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₂n: Behavioural Intention (BI) towards mobile app for shopping will have a significant influence on use behaviour (USB).

H₃: All the constructs of the proposed UTAUT2 model will have a significant influence on mobile shopping app adoption.
H₃a: Performance expectancy (PE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃b: Effort expectancy (EE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃c: Interpersonal social influence (ISI) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃d: External social influence (ESI) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃e: Facilitating conditions (FC) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃f: Facilitating conditions (FC) will have a significant influence on use behaviour towards the adoption of a mobile app for shopping.

H₃g: Hedonic motivation (HM) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃h: Price value (PV) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃i: Habit (HAB) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃j: Habit (HAB) will have a significant influence on use behaviour towards the adoption of a mobile app for shopping.

H₃k: Trust (TRST) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃l: Trust (TRST) will have a significant influence on perceived risk.

H₃m: Perceived risk (PR) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃n: Mobile application self-efficacy (MSE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃o: Personal innovativeness (PINNO) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃p: Flow (FLO) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃q: Involvement towards electronic gadget products (INVLELE) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.
H₃: Involvement towards apparel products (INVAPP) will have a significant influence on behavioural intention towards the adoption of a mobile app for shopping.

H₃s: Behavioural Intention (BI) towards mobile app for shopping will have a significant influence on use behaviour (USB).

H₄: Demographic variables will have a moderating effect on mobile shopping app adoption.

H₄ₐ: Gender will have a moderating effect on behavioural intention to adopt mobile app for shopping.

H₄₇: Age will have a moderating effect on behavioural intention to adopt mobile app for shopping.

H₄₈: Experience will have a moderating effect on behavioural intention to adopt mobile app for shopping.

H₄₉: Profession will have a moderating effect on behavioural intention to adopt mobile app for shopping.

H₅: There is a difference in explanatory powers between UTAUT2 (Venkatesh et al., 2012), extended UTAUT2 (Slade et al., 2014) and the proposed extended UTAUT2 models.
1.12 PROPOSED FRAMEWORK

Figure 1.1 Proposed Framework