



Are Mobile Shopping Applications Revolutionizing the Shopping Universe? Some Observations

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Abstract:

Smartphones have undergone a dramatic surge in usage since 2010, and now constitute consumers' primary access to the internet. India has been established as a decisive marketplace for app developers due to its unparalleled growth in the rate of app downloads and usage. The deployment of the fifth generation (5G) telecommunications network is predicted to unleash a flood of new mobile technologies by 2023. Progression in mobile technology has led numerous marketers to capitalize on smartphone applications as an emerging distribution channel. Smartphones play an important role in people's lives, particularly for Generation Z and Millennials. Shopping habits have been evolving with e-commerce and technological advancement. Present study aims to identify the stimulators and inhibitors of consumer behavior through mobile shopping applications. Exploratory research has been performed by reviewing the recently published articles in the field of mobile commerce and mobile shopping behavior on various renowned databases like Scopus, Web of Science, and Google Scholar. The findings of the study will be useful for app developers and e-marketers to create unique online customer experience, boost long term consumer brand relationship and ensure consumer engagement.

Keywords: *Mobile Shopping, M-commerce, Mobile Shopping Applications, Stimulators, and Inhibitors*

1. Introduction

The commencement of high-speed internet and web applications has redefined the landscape of modern-day retail. Technology-backed retailing led the markets towards considerable variations in the shopping behavior of consumers. Till the last decade, consumers were apprehensive about online shopping platforms, but rising smartphone penetration, greater internet bandwidth, and rapid digital literacy have facilitated the popularization of these platforms. India's e-commerce sector has grown fourfold as a result of the digital revolution. It has continuously been on the path of development. India's e-commerce market is expected to reach US\$ 350 billion by 2030. It is projected to grow at a compound annual growth rate (CAGR) of 19.24 percent, from US\$ 46.20 billion in 2020 to US\$ 111.40 billion in 2025. The food and fashion segment has been emerging as forerunners of further growth (IBEF,2022). Online shopping is becoming omnipresent and expanding to every nook and corner of the country. E-commerce has been adopted in nearly all of India's pin codes. Almost 60% of transactions and orders originate from tier-2 cities and smaller villages these days. As per Invest India,

during the FY20, ninety-seven percent of postal codes had placed at least one order. The pervasiveness of smartphones has generated several innovative options for merchants to connect with consumers. With 235 million people browsing mostly through cell phones, e-commerce in India is rapidly becoming 'app-commerce'. Mobile technologies are at the heart of retail transformation. Mobile applications are capable of reaching out to more clients and bypassing the hurdles associated with the accessibility of desktop websites, even those in remote and rural areas. By delivering service updates and other information via their mobile application, e-mail, and SMS, e-commerce enterprises have been reducing the service gap significantly. The topmost shopping applications include Amazon, Flipkart, and Myntra. Mobile commerce is expected to grow at a compound annual growth rate of 20.1 percent in 2023, outperforming overall e-commerce, to become an INR 4,412 billion (\$62.7 billion) market (JP Morgan, 2020). In India, the number of daily active users (DAUs) for popular shopping applications had been accelerating for the last three quarters. In 2021, the top 10 applications observed 7 million daily average users (DAUs), which was 18% more than the earlier year. In July 2021, the number of shopping applications installed surpassed 80 million. 'Meesho' alone accounted for almost 12 million downloads.

Nowadays almost all big brands of consumer products either have their mobile application or are selling through online shopping giants like Amazon, Myntra, and Ajio.com which provide an all-inclusive platform for listing their products. Advanced mobile applications use audio assistants, client support chatbots, virtual dressing rooms, and augmented reality to increase interactive elements and involvement, in addition to facilitating product and service search, price comparison, e-Wallet payment, and providing access to customer reviews (Pentina et al. 2021). A new generation of consumers called 'Netizens' is emerging. This generation comprises digital consumers that will facilitate the transition from a traditional to a more connected digitalized economy (Kotler et al., 2017). Several new e-commerce categories including ed-tech, hyperlocal and food-tech start-ups are emerging at a fast pace. Further, the COVID-19 pandemic has strengthened online shopping behaviors, and consumers in emerging economies have shifted the most to internet purchasing (UNCTAD, 2020).

2. Need and Significance of Study

Mobile embedded technical features like voice-activated shopping, social commerce, and wearable devices have been transforming the way of browsing products on e-commerce platforms. Understanding the current shopping patterns and habits of mobile shoppers is very crucial in the fiercely competitive e-commerce sector. For e-marketers, comprehending the factors that engage customers with mobile apps and facilitate the design of an ideal online customer experience is of utmost importance. It will command the lifetime loyalty of customers. However, there is still a lot of work that has to be accomplished to deliver the full potential of mobile shopping to customers. The present study aims to identify the stimulators and inhibitors of consumer behavior through mobile shopping applications.

3. Review of Literature

Mobile Shopping Behavior

Duffey (1997) defined m-commerce as, "the delivery of electronic commerce capabilities directly into the consumers' hand, anywhere, via wireless technology" (Global Mobile Commerce Forum, 1997). M-shopping, in particular, can be defined as an innovative service, operated through cell phones that allow customers to explore or purchase items listed by m-retailers anywhere and at any time (Groß, 2015). With the fast proliferation of smart devices, the customers' adoption of mobile applications (apps) has steadily become the main point of focus for e-marketers. M-shopping transactions are carried out through mobile websites and software installed in mobiles called mobile applications. "Mobile application software designed to support the functions of performing tasks on smartphones, tablet computers, and other personal mobile devices" (Tang, 2019). Smartphone applications have features such as amusement, utility, knowledge, and sociability (Shukla and Nigam, 2018). Merchants aim to

boost store visibility and profitability by listing their merchandise over mobile applications (Kim et al., 2017). Initially, mobile shopping was limited to webpages on mobile phone micro-browsers, until the introduction of smart apps that resulted in a smoother user experience (Saibaba, 2021). Mobile commerce is a unique type of consumer purchasing experience that enables customers to quickly browse, compare, and order items, get product and service news, form shopping lists, and locate brands and retailers through a user-friendly interface (Pantano & Priporas, 2016). This is precisely why online retailers are putting more emphasis on escalating mobile app usage. Flipkart, one of India's largest online vendors, disabled mobile access to its site in 2015, demanding app downloads. A similar strategy was followed by Myntra, a standalone apparel store of Flipkart (Statista, 2022). Mobile applications are capable of reaching out to more clients and bypassing the hurdles associated with the accessibility of desktop websites, even those in remote and rural places. By delivering service updates and other information via their mobile app, e-mail, and SMS, e-commerce enterprises have been able to significantly close the service gap. With a simple mobile application that provides an engaging user experience, customers may receive alerts, browse product catalogs, shop, and pay. E-tailers also gain significant client information from mobile app usage, which may be utilized in the form of valuable consumer data analytics to improve their services and sales.

Customers find accessing the information on mobile apps easy and convenient in comparison to websites. In addition, service recovery is smarter in mobile apps as it is simpler to track orders and maintain accounts (Almarashdeh, 2019). The applications' user-friendliness, which provides "anytime, anywhere" interactive conversations, contributes to improved customer experiences and boosts consumer delight (Tang, 2019). While shopping through a mobile device, the traditional store layout is replaced with a tangle of menus, including product category descriptions, account and past order details (Wu et al., 2004). Mobile devices have limitations in terms of display size, storage capabilities, and interface design in comparison to e-commerce, however, the advantages like mobility, prevalence, customization, versatility, and proliferation overwrite these small pitfalls (Shin & Shim., 2002). The mobile lifestyle offers businesses unprecedented opportunities to connect with their customers and interact with them more frequently, beyond time and place boundaries (Kim et al., 2017). M-commerce's on-the-go convenience, flexible designing of online shops, security of mobile applications, sophisticated and creative product presentations, advertisements, and social media impact purchasing decisions (Albastroiu et al., 2022). The mobile shopping environment offers customers numerous alternatives for their browsing tactics. Intelligent agents like: 'Siri' and 'Google Now' enrich buyers' overall purchasing experience. It enables customers to look for product reviews instantly and effortlessly (Shankar et al., 2016). It exemplifies the extent to which this channel may replace the e-channel, while driving merchants to merge physical retail settings with mobile capabilities, emerging as a result of changing retail landscape (Pantano & Priporas, 2016). Therefore, the present study aims to analyze the behavior of customers during mobile shopping applications.

Due to the ubiquity of apps, 'app commerce' has emerged as the newest version of mobile commerce. This refers to retail purchases conducted using a smartphone app. Retail apps have a higher average order value than traditional e-commerce, and app conversion rates are twice as high as mobile websites (Microsoft, 2017). Mobile commerce ushers in a new era of market innovation, expanding the way businesses conduct themselves and altering the relationships between businesses, customers, suppliers, and partners (Anckar et al., 2003). Consumers' purchase journey is shifting significantly. In recent times, the dissemination of information through advanced media has led to broadening consumers' brand choices manifold. A new practice of 'showrooming' is prevailing in which consumers check the prices on their cell phones before purchasing them from stores. Loyalty programs are being conducted through cell phones. Post-purchase impressions about the purchase experience are also shared through social media channels (Mckinsey, 2015). Thus, the mobile purchase journey is entirely contrasting with the traditional purchase process.

4. Factors Affecting Mobile Shopping Behavior

Asians have shown the most effective and successful adoption of mobile devices in comparison to inhabitants of other nations (Chabata, 2021). In India, 83 percent of consumers used their smartphone or mobile to purchase online (Statista, 2023). Mobile devices have possessed the advantages of high cost, time, and effort savings that lead to realizing a feeling of smart shopper. Buying through smartphone applications significantly influences smart shopping behavior. Mobile applications' interface provides more knowledge and rich experience to shoppers (Park et al., 2015). With technological development, mobile applications have become more interactive and refined, providing a number of utilitarian and hedonic benefits to e-shoppers (Lee & Kim, 2019). Till now, theoretical foundations of the Technology Adoption Model (TAM), Unified theory of Acceptance and Use of Technology (UTAUT), Information System Success Model (IS Success Model), Modified Innovation Diffusion Theory (MIDT), and Theory of Planned Behavior (TPB) have been utilized to study the behavior of mobile shoppers (Chen et al., 2018; Natarajan et al., 2017; Yang, 2010; Tak & Panwar, 2017; Soni et al., 2019; Gharaibeh & Gharaibeh, 2021). In the context of mobile purchasing, Yang (2012) looked at the extended theory of planned behavior (TPB) model and found that perceived enjoyment had a greater influence on favourable sentiments about mobile purchasing than the perceived utility. The intention to utilize mobile shopping is significantly influenced by subjective norms and perceived behavioral control. Consumer technological features and adoption patterns for mobile shopping vary widely. Lim et al. (2020) showed that perceived enjoyment, perceived usefulness, perceived ease of use, perceived trust, and social influence factors have a significant impact on purchasing intention of Malaysian consumers using mobile shopping applications. Vo et al. (2021) indicated the significant positive impact of online reviews, e-service quality, and information quality on behavior intention to use mobile applications. In addition, perceived risk was found to be negatively influencing consumer online purchase intention via the applications. Fernandes and Barfknecht (2020) verified the importance of digital atmospherics comprising informative content, easy-to-use interface, perceived trust, and entertainment in determining mobile app users' utilitarian and hedonic shopping values. These shopping values further impact their level of satisfaction and future repurchase intention. Mushtaq et al. (2019) emphasized the perceived trustworthiness of mobile e-commerce platforms. Trust has a highly significant impact on future app usage intention in comparison to perceived usefulness. Chung et al. (2016) incorporated the expectation disconfirmation theory to learn the factors that affect the continuance usage intention of mobile shopping applications. Findings revealed that confirmation, perceived ease of use, usefulness, enjoyment, and personalization are significant predictors while security/privacy and localization/instant connectivity are insignificant. Aziz et al. (2020) observed that perceived usefulness, privacy and security, electronic word of mouth and perceived ease of use influence the consumer's attitudes to continuously use mobile shopping applications. However, it has been revealed that design aesthetics are not significant in predicting continuous usage attitudes, as consumers are more concerned about the usability of platforms. Hanif et al. (2022) utilized the Unified Theory of Acceptance and Use of Technology (UTAUT) model with other elements comprising assurance, perceived risk, and trust to check their impact on consumers' behavioral intention to engage in mobile shopping. There has been a significant difference between mobile shopping preferences of the male and female segments in terms of perceived risk, perceived trust, structural assurance, and social influence. Also, results demonstrated a moderating effect of structural assurance and prior shopping experience on the relationship between perceived risk, trust, and mobile shopping intentions. Chopdar et al. (2018) adapted UTAUT 2 to examine the predictors of consumers' behavioral intention and use behavior towards mobile shopping apps. The authors checked the influence of two indicators of perceived risk namely: privacy and security risk. In addition, moderating impact of culture was tested. For both countries, the UTAUT 2 constructs predicted the behavioral intention to use mobile shopping apps and subsequently usage behavior.

Features of mobile apps have a bearing on customers' mobile shopping behavior. Ko et al. (2009) emphasized the role of four m-commerce characteristics namely: usefulness, enjoyment, ease of use,

and instant connectivity on consumers' intention to adopt mobile fashion shopping. Musa et al. (2016) validated that mobile app features, device networks, and service quality significantly impact the customers' attitude and behavioral consequences while trust, privacy, and security remain a matter of concern for mobile marketers. Mobile shopping service quality constituting the dimensions of efficiency, fulfilment, responsiveness, and contact shapes customers' satisfaction and loyalty towards mobile shopping applications. Further, variables like gender, age, income, the value of clothing items, and m-shopping experience had a moderating impact on this relationship (Omar et al., 2021). In another study of Chopdar et al., (2022) it was confirmed that mobility, personalization, product assortment, and hedonic motivation results in impulsive buying behavior on mobile shopping platforms. However, the app's visual appeal refuted this assumption. The authors further added that impulsiveness was found to be significantly associated with users' intention to install another shopping app, while consumers' behavioral intention was an important antecedent of multiple app usage behavior. Liu et al., (2020) found that entertainment and personalization are two factors having a significant positive impact on consumers' emotional attachment to apps in the form of arousal and pleasure. Information, visuality, and economic benefits directly predict consumer arousal and it results in consumer pleasure. Both arousal and pleasure are associated with impulsive buying. Hu et al. (2022) measured the impact of utilitarian features (convenience, customization, and ease of use) on satisfaction, repurchase intention, and e-WOM intentions. The authors also studied the mediating role of enjoyment in this relationship. The outcomes of the study highlighted the significance of functional factors in satisfying the quest of consumers and boosting post-adoption pleasure which ultimately leads to repurchase intention and positive word-of-mouth recommendations. Apps' usefulness, perceived value, inherent enjoyment, and mobility are the strongest drivers of customer satisfaction with purchase experience which further emerges in continuous usage intentions (Chiu et al., 2019). Voon et al. (2020) confirmed that perceived benefit, security, privacy, performance expectancy, perceived ease of use, and customer services were the primary antecedents of customers' mobile shopping behavior. Chan et al., (2022) shed the light on the role of ubiquitous connectivity of mobile phone applications. Findings indicated that ubiquitous connectivity, perceived usefulness, perceived ease of use, and perceived enjoyment had a significant positive effect on the behavioral intention to adopt mobile shopping whereas the impact of service quality and system quality is insignificant. Intention to adopt mobile shopping mediated the association between ubiquitous connectivity, perceived usefulness, ease of use, and enjoyment in the adoption of mobile shopping.

Apart from the platform-related features, there are various socio-demographic characteristics that have a bearing on users' mobile shopping attitudes. Golbasi et al. (2019) found that personal innovativeness is the most crucial factor in customer satisfaction with mobile shopping applications. In addition, there is a high moderating effect of perceived ease of use and price sensitivity on customers' satisfaction. Yang & Kim (2012) demonstrated the shopping motivations of mobile shoppers which includes idea, efficiency, adventure, and gratification. These shopping motivations act as a pushing force towards mobile shopping adoption. Bigné et al. (2005) analysed that socio-demographic variables, such as gender, consumer age, social class, and duration of human-computer interaction (online shopping experience and internet exposure) impact the adoption of mobile commerce. Madan and Yadav (2021) provided an integrated framework to understand users' behavioral intention to adopt mobile shopping. All factors of the framework (hedonic motivation, perceived critical mass, promotional activities, cost, facilitating conditions, and personal innovativeness) were significant in predicting mobile shopping behavioral intention, except for perceived regulatory support. Demographic variables such as age and gender moderated this relationship.

Nevertheless, limited information is available about mobile buying behaviors, and extrapolating these trends from internet purchases may yield misleading results (Kim et al., 2017). Past research signifies that consumers have diverse purchase habits across several purchase categories, including apparel, electronics, consumables, etc. Consequently, there can be incentives and impediments for mobile

vendors to sell different goods and services via mobile platforms in different markets. (Tan and Ooi, 2018). Future studies should concentrate on how developing technologies like augmented reality (AR), virtual reality (VR), voice search, chatbots, mobile image recognition (MIR) technology, and 5G technology on mobile shopping applications affect mobile buying behavior, since this may significantly alter consumer behavior (Saibaba, 2021). This may facilitate mobile app developers to explore various factors that either facilitate or impede the adoption of mobile shopping in a developing economy.

5. Research Methodology

Present study aims to identify the stimulators and inhibitors of consumer behavior through mobile shopping applications. Exploratory research has been performed by reviewing the recently published articles in the field of mobile commerce and mobile shopping behavior on various renowned databases like Scopus, Web of Science, and Google Scholar.

6. Discussion and Implications

Progression in mobile technology has led numerous marketers to capitalize on smartphone applications as an emerging distribution channel. Smartphone applications, as an innovative network, may be used in the retail marketing mix to build positive customer interactions. Shopping habits have been evolving with e-commerce and technological advancement. Mobile devices provide users ubiquitous access to the internet world and offer them a platform to share their ideas and experiences with others through social media postings and online reviews. Customers often switch between and use several websites, mobile applications, and social media platforms. For a smooth transition between the offline and online markets, app developers and e-marketers must be aware of stimulators and inhibitors of consumers' mobile app shopping behavior. Present study has made an attempt to review the facilitators and impediments to mobile shopping adoption. Past literature shows that perceived usefulness, ease of use, personal innovativeness, enjoyment, aesthetics, trustworthiness, connectivity, social influence, service quality, perceived value, information quality, and digital atmospherics are the biggest stimulators of consumers' shopping behavior on mobile applications. These predictors determine their intention to adopt, behavioral intention, satisfaction, loyalty, repurchase intention, and motivation to spread positive word of mouth. Few studies showed that lack of trust, perceived security and privacy risk, and lack of systemized regulatory framework are the impediments to the rapid expansion of app commerce. Mobile applications must provide authentic information, convenience, mobility, interoperability, continuous support, personalization and a pleasing atmosphere to digital consumers. These features may enhance the quality of customer experience and promote customer retention in the competitive marketing environment.

7. Conclusion

Consumers rely on mobiles more than ever. It has the potential to become the most preferred online shopping channel in the coming years. Mobile phones are excessively used during the entire purchase process. This increases the possibilities of converting random visitors to buyers. E-retailers must constantly monitor their app compatibility and functionality. The findings of this study outline the key stimulators and inhibitors that have a bearing on consumers' mobile shopping behavior. These findings can be utilized to improve the mobile shopping experience, boost customer satisfaction and reduce cart abandonment behavior. Future researchers can conduct similar studies and explore more factors that shape mobile shopping behavior of consumers.

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