

Assessing the Effect of Age on M-Commerce Adoption

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ABSTRACT

The study investigates the role of age with regard to adoption of m-Commerce. The study examines the impact of age on selected drivers viz., perceived usefulness, perceived ease of use, subjective norms, attitude and adoption intention of m-Commerce users. Data were collected from m-Commerce users from Ahmedabad city of Gujarat state. Findings of the study showed significant effect of age on perceived ease of use, perceived usefulness, social norms and attitude towards m-commerce applications. The study is beneficial to vendors in segmenting their target market by tailoring their offers to fulfil the needs of the target group. The study would also be helpful to the advertising business by showing them the way to plan for strategic positioning decisions.

INTRODUCTION

As India entered the digital era, those who were born after 1990 were exposed to the internet and other digital technology; as a result, their ways of thinking, talking, and living are considerably dissimilar from those of others (Pieri and Diamantinir, 2010). Mobile technology and the internet serve as venues for amusement and social connection. This age group was targeted by online merchants since they had a say in the family's purchasing decisions. This generation believed that having a cell phone had made their lives easier because they were technologically aware (Ansari et al., 2012). Because they were exposed to foreign media and lifestyles, the younger generation was enticed to foreign products through shopping apps. As young adults spend more time online using mobile devices for information, entertainment, shopping, and networking, it is critical to understand what appeals to them about the wireless medium.

In view of above the study was undertaken to identify the effect of age on the drivers of m-commerce adoption. Perceived usefulness, perceived ease of use, subjective norms, attitude and adoption intention of the m-commerce users were taken as the drivers and the effect of the age of m-commerce users were identified. The following section provides in-depth understanding about the drivers and also highlights the hypotheses tested under the research study.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Perceived usefulness is understood as the willingness and eagerness to adopt new technology that aids in effectively completing a task (Davis, 1989). Previous studies found the significant relationship between perceived usefulness, attitude, and behavioural intentions (Roy et al., 2018; Sun and Chi, 2018; Doshi, 2018; Talwar et al., 2020; Doshi, 2021, Chan et al., 2022), while some studies have found no relationship between them (Li et al., 2008; Dutot, 2015). According to Roy et al. (2018), Chan et al. (2022), and Lim et al. (2022), perceived ease of use is the primary element driving customer adoption of m-commerce technology. This is because utilising a mobile phone to complete these tasks takes very little time (Rodríguez-Torrico et al., 2019). According to Wu and Wang (2005), once a consumer is accustomed to the m-commerce system, perceived ease of use has no bearing on their decision to use it. This finding was supported by Kim et al. (2010), who found that early adopters prioritize perceived ease of use while late adopters prioritize perceived usefulness.

The consumer's decision to adopt and use e-commerce and mobile commerce services is heavily influenced by the media as well as counsel from close friends and family members (Pandey and Chawla, 2020). Peers had a surprising impact on customers' attitudes and intentions towards the adoption of m-commerce, according to studies, despite the impact of mass media was not a substantial contributor (Wu et al., 2015); this was also supported by

Shankar and Datta (2018). Numerous researches (Venkatesh and Davis 2000; San-Martin, et al. 2016; Marinkovic, et al. 2020; Misra, Mahajan, and Singh, 2022) have verified the significance of societal norms in adoption. When engaging in a certain action, a person's attitude which can be either positive or negative, comes into clear focus and affects how the activity is carried out. Consumers are considered to have a positive attitude toward an activity if they believe that its results will be favourable (Zhang, Lu and Kizildag, 2018). The most crucial factor in the research of consumer behaviour is attitude since it directly affects the consumer's ideas, feelings, and decision-making process (Parker and Lee, 2022; Asampana et al., 2022). Additionally, a positive attitude breeds customer loyalty (McLean et al., 2020)

While behavioural intention can be used to significantly predict true usage, factors that negatively affect usage do not accurately predict what a customer's actual consumption is (Venkatesh, Speier and Morris, 2002). Therefore, it is reasonable to conclude that a consumer's behavioural intention towards m-commerce and his or her intention to use the aforementioned services are highly correlated (Zhang et al., 2012; Agrebi and Jallais, 2015; Asampana et al., 2022). Subjective norm, attitude, and perceived behavioural control all have a beneficial influence on Generation Z's behavioural intention to use mobile commerce (Verma, Tripathi, and Singh, 2021).

Chong et al. (2012) discovered age of the users having significant impact compared to the other demographic parameters like gender and education on the decision to adopt. Another survey revealed that students under the age of twenty are more interested in adopting mobile commerce than students over twenty (Alduaij et al., 2016). According to a study on the impact of age and effective computer use on nurses' adoption of information systems, knowledge of computers has a favourable impact on nurses' attitudes whereas age has no bearing on how easy they perceive information systems to be to use (Ifinedo, 2016).

Previous researchers found that age, experience, and attitude having substantial impact on the choice for the use of particular m-Commerce adoption and the continuous usage intention (Bigné, Ruiz and Sanz, 2007). Chong's (2013) found strong link of the age and educational level of the users on the activities undertaken on the m-commerce applications. Similar, results regarding the age were found by Eze and Poong (2013) where they examined different and varied perspectives in use of m-commerce application based on the age of m-commerce users. While some have expressed some reluctance, age was found to be a significant influence in the decision to adopt mobile commerce (Pederson, 2005; Islam et al., 2010; Hernández et al., 2011; Yousafzai et al., 2012, Kalliny and Minor, 2006). The models created by Davis (1989) were criticised for not including demographic information, but Venkatesh et al. (2003) created a model that implies that gender and age are essential factors in research relating to technology adoption.

There is a relationship between age and technology adoption, with younger generations using it more adeptly than older generations (Pieri and Diamantinir, 2010). Young people use mobile shopping for amusement, whereas older people use it for practical purposes (Maldifassi and Canessa, 2009). Age, gender, and socioeconomic class all have an impact on the adoption of mobile shopping (Chong et al., 2012) Which was supported by San-Martin et al. (2016), who discovered that older persons are more likely to consider subjective norms while making purchasing decisions. Young adults utilise mobile shopping as a form of entertainment, and research of the effectiveness of word-of-mouth on mobile shopping found that among young people, perceived enjoyment is the determining factor, whereas subjective norms are more important for adults (Molinillo et al., 2022).

In view of above we hypothesize that:

H1: There is no difference in the perception of ease of use of m-commerce application for shopping based on the age of users

H2: There is no difference in the perception usefulness of m-commerce application for shopping based on the age of users

H3: There is no difference in the social norms of m-commerce users for the m-commerce shopping application based on their age

H4: There is no difference in the attitude of m-commerce application for shopping based on the age of users

H5: There is no difference in the adoption intention of m-commerce application for shopping based on the age of users

RESEARCH METHODOLOGY

In order to achieve the objective the structured non- disguised questionnaire was developed and circulated among the m-commerce users. The questionnaire was divided into two parts. The first part collected the demographic details and the second part collected the responses for the five different constructs under study. In total 40 statements were asked to the respondents to know their perception for the five constructs namely, perceived usefulness, perceived ease of use, subjective norms, attitude and adoption intention. 5 statements of perceived ease of use, were taken from Wu and Wang (2005), Bhattacharjee (2001), Taylor and Todd (1995) and Venkatesh and Davis (2000); 7

statements of perceived usefulness were taken from Wu and Wang (2005), Nysveen et al.(2005),Chong et.al. (2012) and Wei.et al. (2009); 8 statements for social norms were taken from Fishbeinand Ajzen (1975),Venkatesh and Morris (2000), Taylor and Todd (1995),Venkatesh and Davis(2000), Roehrich (2004) and Chong et.al. (2012); 9 statements for attitude were taken from Yang (2005), Oh et al. (2014), Lee and Park (2006), Hung et al. (2003), Wei et al. (2009) and Pedersen (2005); and 11 statements for adoption intention were taken fromVenkatesh and Davis (2000), Lee and Park (2006), Yang (2010), Chong et al. (2012), Wang & Li (2012), Zhang, Chen and Lee (2013), Wu and Wang (2005), Wei et al. (2009) and Lee and Park (2006)respectively.

Demographic details were collected for the five aspects namely, age, gender, operating system used, preferred time for shopping and the average time for shopping. In order to collect the responses questionnaire was distributed among the m-commerce users of Ahmedabad city using the convenience and snowball sampling method. In total 660 questionnaires were distributed among the m-commerce users from which 548 questionnaire were returned. Further,48 questionnaires were found incomplete and were not taken for the further analysis. Details of the demography of the respondents are given in table number 1.

Table:1 Demographic details of the respondents

Demographic details		Responses (500)	Percentage
Gender	Male	242	48.40
	Female	258	51.60
Age (In Years)	16-30 years	148	29.60
	31-50 years	206	41.20
	more than 50 years	146	29.20
Operating system used	Android	464	92.80
	iOS	27	5.40
	Windows	9	1.80
Preferred time for shopping	Morning	79	15.80
	Afternoon	78	15.60
	Evening	57	11.40
	Late Evening	286	57.20
Average time of shopping	Less than 30 minutes	160	32.00
	30-60 minutes	184	36.80
	More than 60 minutes	156	31.20

RESULTS

Further, reliability of the questionnaire was tested with the help of Cronbach’s alpha. The questionnaire is said reliable when the alpha value is more than 0.700 (Doshi, 2021), in the study the alpha value of the 40 statement was 0.799 and the questionnaire was found reliable and the data collected can be further used for testing the hypothesis. For the adoption of the test, normality of the data was tested using Kolmogorov-Smirnov test. The data is said to be normally distributed when the p-value of the test is more than 0.05. In the study the p-value of the construct was less than 0.05, hence it was concluded that the data was not normally distributed. Due to non-normal distribution, Kruskal-Wallis, non-parametric test was used to test the hypothesis, age of the mobile application users affecting the perceived ease of use, perceived usefulness, social norms, attitude and adoption intention of m-commerce. Result of the test is shown in table 2.

Table 2: Testing of the Hypothesis

Hypothesis	P-value	Decision
H1: There is no difference in the perception of ease of use of m-commerce application for shopping based on the age of users	0.007**	Reject
H2: There is no difference in the perception usefulness of m-commerce application for shopping based on the age of users	0.000**	Reject
H3: There is no difference in the social norms of m-commerce users for the m-commerce shopping application based on their age	0.000**	Reject
H4: There is no difference in the attitude of m-commerce application for shopping based on the age of users	0.001**	Reject
H5: There is no difference in the adoption intention of m-commerce application for shopping based on the age of users	0.179	Accept

Note: **. Significant at 0.01 level of significance

From the result it was examined that age of the m-commerce users affected the perception of ease of use, perceived usefulness, social norms and their attitude towards using m-commerce and the relationship was significant at 0.01 level of significance. While, no effect of the age of m-commerce users was seen on their adoption intention. Further post-hoc test was conducted to know the difference in the perception based on the specific age category. For perceived ease of use, people with the age group of above 50 years felt that the use of m-commerce application was easier compared to the age group of 31-50 years. The difference in the mean rank score among the group was 46 and the difference was found significant at 0.05 level of significance whereas the differences in the mean rank score for rest of the group were found insignificant at 0.05 level of significance.

For perceived usefulness, the difference between the mean rank score of age group 16-30 years (-84.072) and 31-50 years (-81.195) was significant at 0.05 level with the m-commerce users above 50 years. Where, the m-commerce users above 50 years perceived m-commerce more useful compared to the age group of 16-30 and 31-50 years. Similar result was with the social norms and attitude, where the m-commerce users with the age group of 16-30 years and 31-50 years, were having low perceived social norms and had a low level of positive attitude for the m-commerce applications compared to the users of the age group of more than 50 years. The mean rank score of the comparison between 16-30 and more than 50 years was 127.058; and the score for comparison between 31-50 and more than 50 years was -133.192 for the social norms for m-commerce users. Regarding the attitude of m-Commerce users, the difference between the mean rank score of more than 50 years and 16-30 years was 52.628; and the difference between the mean rank score of more than 50 years and 31-50 was 52.682 for the use of m-commerce application.

DISCUSSION

From the findings it can be derived that companies should consider the age of the m-commerce users while designing the strategy as different age group perceive differently the usefulness, ease of use, social norms and have difference in the attitude for the use of m-commerce applications.

Regarding perceived ease of use, when creating the user interface for mobile apps, both m-commerce merchants and app designers should take age into account. The majority of users over the age of 50 found it to be simple and comfortable to engage in m-Commerce activities, and mobile applications assisted them in learning about promotional offers and coupons. As a result, this method of shopping has a high potential for future growth, which the businesses involved in it should investigate.

With regard to perceived usefulness, users have accepted this medium as a natural part of their lives and have found that using it helps them becoming more informed about offers, products, and services as well as have quicker access to their preferred online retail stores with better user experience through optimised apps and websites. As a result, m-Commerce vendors should concentrate on making these medium more useful and adding more useful features. Similar results were found in case of social norms and attitude.

In a country like India, where the adoption decision is impacted by family, friends, relatives, coworkers, and the media, social norms are crucial. This differentiation should be taken into consideration by both m-Commerce providers and merchants when developing marketing strategies and developing offers for various consumer segments. Because consumers like mobile coupons and other discount offers and undertake online scanning before making purchases, m-Commerce firms should aid customers with a choice of products and easy-to-compare user interfaces. This might encourage a favourable view of m-Commerce.

Businesses should investigate why customers under 50 have a low level of favourable perception of mobile commerce applications and work to introduce more lucrative offers and trust-building strategies to help these consumers overcome their concern about m-Commerce transactions. As there is usually a sense of anxiety associated with online transactions, businesses can offer QR codes so that clients can rapidly scan them and obtain the information they require. This will assist to establish a positive attitude towards this medium.

CONCLUSION

Since Generation Z was reared during a period of tremendous technological advancement, technology has permeated every aspect of their lives, strongly influencing their attitudes and spending habits. Since they are less price sensitive and have more disposable income, younger generations may be more enticed to m-Commerce. Marketers ought to take age into consideration when creating products and establishing prices for different age groups. The user interface designers of apps and websites should take this into account when creating user-friendly interactive interfaces and tailoring their offerings because different age groups of m-Commerce users have varying

opinions about how comfortable it is to conduct business online using a mobile device. Content producers and m-Commerce service providers should develop content that is suitable for each age group because various age groups have varied expectations. Users of m-Commerce services from a range of age groups have different perspectives on their familiarity and skill with them, are very likely to make purchases using their mobile devices, have the required hardware, software, and network services, are eagerly awaiting the arrival of m-Commerce services, and will also recommend m-Commerce services to others.

Social norms were discovered to have a significant influence on users' attitudes toward the adoption of m-commerce services; this construct can be explored to develop appropriate campaigns on social networking sites to connect in a better way with various target age groups using tailored communication with users through appropriate educational and promotional campaigns. Additionally, customer testimonials and reviews may be added, assisting in the growth and promotion of favourable word-of-mouth marketing about the company's products and services among both the young and elderly generation.

Various age groups have said that they have different attitudes toward mobile commerce transactions and that they do their research online before making a purchase. Additionally, they mentioned how much they value using m-commerce services to buy things. The age of the target client should be taken into consideration while developing products and services for m-commerce.

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