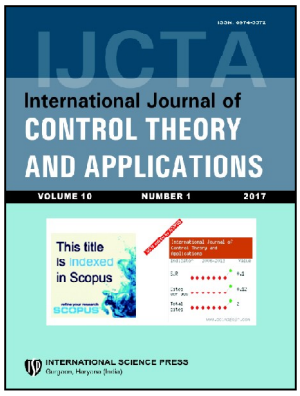

International Journal of Control Theory and Applications

ISSN : 0974-5572

Volume 10 • Number 4 • 2017

User Acceptance of Mobile Commerce: An Empirical Study in Delhi/NCR

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Abstract: The objective of this research is to analyse the impact of Perceived Usefulness and Perceived Ease of use over the mobile shopping behavior of an individual, and hence understand the level of m-commerce acceptance by the users using the Technology Acceptance Model. A primary research was conducted in order to collect the data with help of a questionnaire. The response group included individual of 15-30 years of age, both male and female, with are either students or in service or business. In questionnaire, questions regarding each parameter were asked to the respondents. Regression analysis was done to find out the coefficient of determination and hence calculate the level of dependence between the factors. The results show that Mobile Shopping Behavior (A) is 54.1% dependent on perceived ease of use and perceived usefulness. It also explains that keeping all other variables constant, a 1% change in factors in Perceived Usefulness affects the Mobile Shopping behavior by 28.7%, where as the value rises to 56.3% for Perceived Ease of Use. It was also observed that with increase in the frequency to visit markets the interest for mobile shopping decreases.

Keywords: MOBILE COMMERCE, E-Commerce, Mobile shopping, TAM, TRA

INTRODUCTION

With the 4G releasing; there can be see a huge change in the mobile usage patter by the users. The users have become more informed and tech savvy today and they take into consideration each and every new release, launch. The intelligent user now does not makes his perception only by listening to others but this is completely based on his own experiences. Mobile user now has also become more open to changes and accepts it with open hands. This adaptability of technology always give a chance to users to think about it before rejecting it spontaneously. New applications have also established themselves amongst the users very easily. Apps such as mobile payment, mobile navigation map and mobile game have made the day to day activities so simple and handy that they have been widely accepted by users. This situation reveals mobile commerce enters in a rapid development phase. Though mobile commerce is a new technology in India and has even drawn some attention from the users. This hence leads to the need of studying the acceptance of mobile commerce amongst the users, which is helpful in understanding the characteristics or factors which affect the acceptance behavior of users towards mobile commerce and also the factors, which facilitate the popularization of mobile commerce and mobile applications in India. By taking consumers from Delhi NCR as the research object, this paper makes a

study of their behavior and acceptance towards m-commerce. Here a model has been constructed by integrating technology acceptance model with factors that have been derived general discussion and from some other studies also, in order to understand mobile phone users' willingness to accept mobile commerce and influence factors, finally analyze the interrelationship among these factors.

The Theory of Reasoned Action

Fishbein Ajzen's Theory of Reasoned Action (TRA) in the social psychology literature defining the relationships between beliefs, attitudes, norms, intentions, and behavior. According to Fishbein, "An individual's behavior is determined by one's intention to perform the behavior, and this intention is subjected by the individual's attitude and as well as the subjective norms, defined as the person's perception that most people who are important to him think he should or should not perform the behavior in question".

According to TRA, attitude toward a behavior is dependent on the beliefs about the consequences of the behavior and the affective evaluation of those consequences. Beliefs are the individual's subjective probability that showing a specific behavior will lead to some specific results or consequences. Affective evaluation is "an implicit evaluative response" to the consequence; thus it can be said that the attitude assemble in TRA is general in nature and is not emotionally involved to any given belief set. This approach represents an information processing view of attitude formation and change which states that external stimuli influence attitudes only through changes in the person's belief structure.

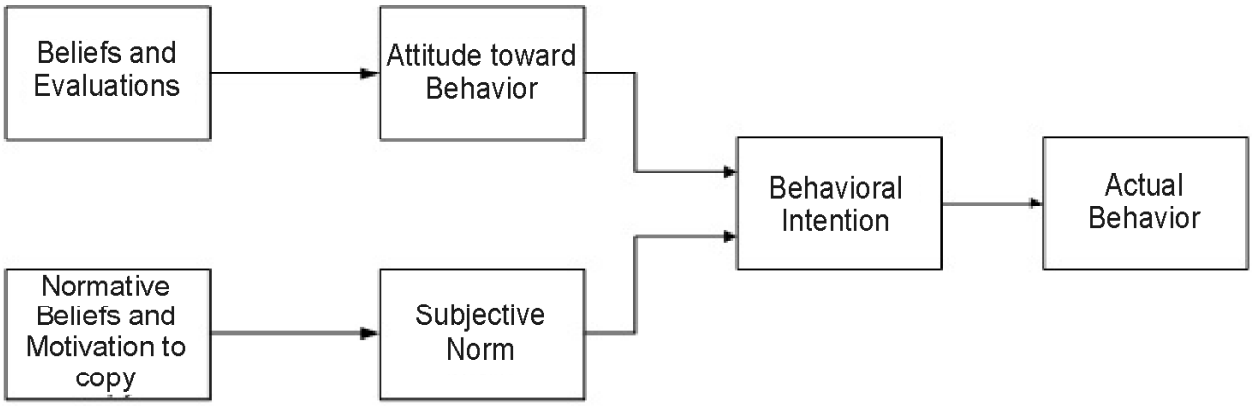

Figure 1: Theory of Reasoned Action Model (TRA), Source: Interpreting Samiaji Sarosa (Sarosa, 2009)

However, behavioral intentions are not completely dependent on the attitude of an individual. Intentions are also dependent on the subjective norms, which, in turn, are dependent on individual's normative beliefs and motivation to comply with perceived norms. The final result is a generalized model used for accepting the determinant factors of human behavior. The behaviors are generally in those situations where people have their choices and can display behavior according to their perception about the result of that displayed behavior. The model has been used to make predictions about the choice that humans make in situations as diverse as voting in elections to choosing their friend circle and even selecting their clothes. In their meta-analysis examining the application of TRA found that the theory performed extremely well in the calculation of choice among alternatives. They concluded that "The theory is exceptionally robust and offered strong predictive utility, even when used to examine situations and activities falling outside the original boundary conditions of the theory such as predicting non voluntary behavior, or when intentions were assessed even before subjects had all the information necessary to form a completely confident intention." Source: (Werner, 2004)

The Technology Acceptance Model (TAM)

While TRA is a general model which is applicable to many areas, a number of Management Information System specific models have been derived from TRA. Out of all these models, the most widely cited is Davis' (1989) Technology Acceptance Model (TAM). The objective of TAM is to interpret information system acceptance. TAM is used to find out user acceptance of any technology. The model says that the acceptance behavior can be determined by two factors: perceived usefulness and perceived ease of use.

Acceding to Davis "Perceived usefulness (U) is defined as the degree to which a user believes that using the system will enhance his or her performance. Whereas perceived ease of use (EOU) is defined as the degree to which the user believes that using the system will be free from effort." Both U and EOU are specific perceptions and are associated to precise beliefs users embrace to about the system. According to TAM, U and EOU have a major impact on a user's attitude towards using the system (A), defined as feelings of favorableness or unfavorableness toward the system. Thus, attitude is a general assemble which is not attached to any specific beliefs about the technology and solely dependent on the perception of the users. In the model, the behavioral intentions to use the technology (BI) are the function of Attitude towards using (A) and perceived usefulness (U) and ease of use (E) as well. BI then determines actual use. Research has consistently shown that BI is the strongest predictor of actual use.

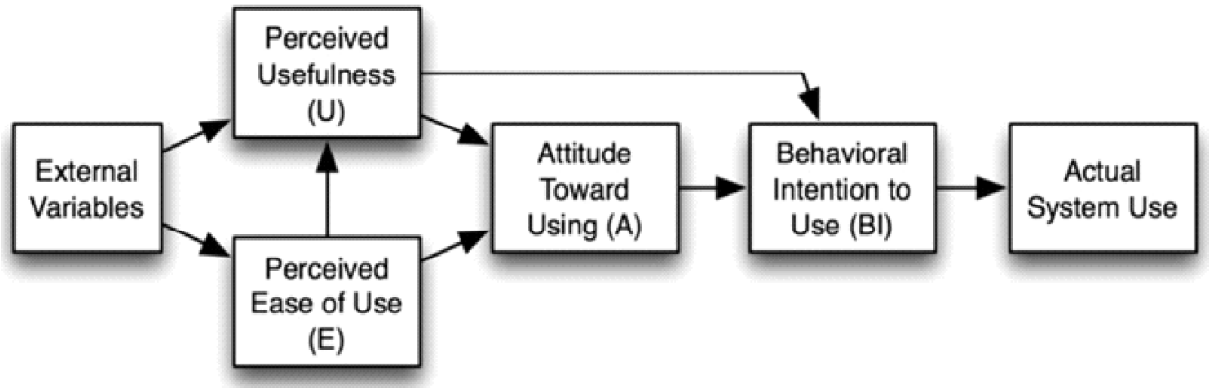

Figure 2: Technology Acceptance Model (TAM), (Source: commons.wikimedia.org)

TAM v/s TRA

There are several differences between TAM and TRA. First, Davis et al explain that "Because the technology studied was of a personal and individual nature i.e., use of the technology was not dependent on others' use of the same technology, system usage was not likely driven by social influences." Another important difference is that TAM proposes a direct path from perceived usefulness to intention, not following TRA which shows relationship between beliefs and intention in being built by attitude completely. According to Davis Et Al, in the work environment, intentions to use IT may be based on its expected impact on job routine, despite of the person's overall attitude toward that system. In other words, even though an employee may dislike a system, that employee may still use the system if it is supposed to increase job presentation.

Elaborating the TAM model, base upon the factors which act as a determinant for the technology acceptance, these factors can be classified into the two categories parameters of the model. These can be bifurcated as under:

Perceived Ease of Use

Type of mobile device

Screen Size

Connection type

Security in Use
Mobile Usage

Perceived Usefulness
Demographics
Profession
Income Group
Access to Market
Frequency of Shopping

LITERATURE REVIEW

Kanwalvir Singh and Himanshu Aggarwal (February 2013) did a research on 'Critical Factors in Consumers Perception towards Mobile Commerce in E-Governance Implementation', which was based on Indian perspective. The objective of his research was to discover the significant factors that outline the belief of people for the acceptance & use of M-commerce in the state of Punjab in India. The main results from his study were: The important aspect of the examination was that almost half (49%) of the total interviewed people were from rural region, out of which commonly of them were farmers. Respondents under 18 years of age measured benefits of M-commerce in offering various types of M-transaction services & also due to the affordable price of services. People in the urban areas accepted M-commerce to be more flexible & having reasonable cost. The digital divide between the respondents in the urban and rural region was considered to be the most significant hindrance in their usage of m-commerce, for the respondents in the rural region, in the age group of 18-60 years. Matric/10+2 respondents have been also found to be having similar opinion about the issues relating to usage. Another issue with the respondents in rural region between the age group of 18-60 years was the lack of training and knowledge amongst the users of these regions. They are not provided with appropriate guidance to use mobile or internet over their handsets. Another issue that respondents from rural region faced was language barrier. As most of these applications and even handsets are in English language, it was difficult for them to understand. The threat the female respondents faced was the security issues. Also, as the respondents between 18-25 years of age were more concerned about the security of data while using these websites. Lastly security was not that major concern amongst the users from rural region due to their illiteracy and lack of knowledge about the cyber crime issues.

The findings of this study can really be a crucial data for research on studying the behavior pattern of the mobile users. The benefit concern will be the people involved in the development of information systems & decision support systems, particularly related with mobile commerce. Talking about the e Governance websites, the trust of the users over these websites, level of security maintained in these and also facilities provided by the website plays the most important role as a determining factor for the acceptance and likability of these websites. The e Governance websites such as IRCTC are lower in performance and hence users are not very interested in accessing them over mobile phone.

Teena Bagga (2013) did a research to identify the various intrinsic and extrinsic factors which effect the consumer's buying behavior online. The inner motivations were the intrinsic factors or drivers of the consumer's behavior whereas, marketer generated Internet marketing activities were considered as the extrinsic factors. The aim of the analysis was to identify these parameters and then calculate the impact of these on the behavioral patterns. The theoretical structure of this article was based on a vast Internet marketing literature. A hypothetical model was devised to prove the results of this study. This model considered the dependent and independent variables which were discovered using an exploratory factor analysis. Finally these variables were taken to develop the hypothesis, which was later proved using paired t test and ANOVA. The tool of data collection was questionnaire and sample size decided was 200. Respondents were contacted over email or by posting the questionnaire online. According to researcher "The Exploratory Factor Analysis recognized seven key intrinsic

and extrinsic factors which administer the consumer's purchase behavior. These seven factors were: Need for Recreation, Convenience, Website Attributes, Online Advertising, Social Communication, Information Search and Security and privacy concerns. The significance of these seven factors varies across different demographic variables such as age, income group of consumers and gender. The article presents a straightforward approach towards identifying the most efficient Internet marketing tools that companies should make use of and also helps in better understanding the online consumer behaviour which varies from the traditional consumer behaviour across various dimensions."

Susan Kleinman (2012) wrote an article talking about the importance of shipping and delivery time in the performance of any e retail website. While free and discounted shipping is a big story, there is more to online shopping and the customer knowledge. In fact, many shoppers are ready to pay a nominal fee to take delivery of the product quicker if given the choice. Shipping and delivery timing is crucial during check-out – it's all about communication! To reduce shopping cart rejection, retailers should show the shipping costs, and also how much more should be purchased to get free shipping, and give consumers the alternative of shipping time frames. Customers are prepared to wait for their packages, but must know what is happening – they want expected delivery time undoubtedly declared and they want e-mail or text alerts about their delivery.

Also another important factor that was considered central to the customer was the feeling of control, control over the whole process of shopping. Options such as "special delivery instructions, the facility to schedule a late delivery, or having a delivery window give the consumers the control they need to better their shipping experience." Finally, author also concluded that "good experiences with returning items leads to repeat customers and recommendations for the retailer. Good returns experiences are distinct by ease for the consumer, while the bad experiences highlight hassles and the extra cost required."

Zheng, Li, & Jiang (2012) in their research paper "Empirical Study and Model of User's Acceptance for Mobile Commerce in China", publised in 2012 concluded that the merchants urgently need to investigate consumers' willingness to accept mobile commerce and what factors influence their acceptance since the spring up of mobile commerce. Consumers were taken as the research objects and data analysis tool was a questionnaire. The study was conducted to analyze consumer's attitude toward using mobile commerce and then determining the factors influencing the usage of mobile commerce based on the user acceptance theory. Their results of the study show that consumers' attitude toward using is affected extensively by perceived entertainment, perceived cost, perceived usefulness, and its own development of mobile commerce, especially the factor of perceived usefulness. Although the trial ability of service doesn't influence attitude toward using directly, it has indirect effect on attitude toward using through perceived usefulness.

Abu Bashar (2012) conducted a research ob lines similar to earlier and the analysis identified positive relationship between impulsive and demographic factors. He said that "among the demographic factors, impulsive buying were positively correlated with all the factors that have been considered for the study, which means that individuals having enough disposable income, medium in age are more likely to display impulsive buying behaviors. Moreover, results also showed that, majority of the variance in impulse buying can be explained by Disposable income." This hence shows that the individual earning more and are having higher disposable income are more likely to display impulsive buying behavior while shopping online. Limited scope of author can considered as the limitation of the study. The research was conducted only in the Delhi NCR region and hence cannot display the picture of whole country. The scenario might change with the change in city, which leads to be need of research to be conducted in the larger area. Finally the study tries to deduce a relationship between the impulsive buying behavior of the user and the demographic factors. The relationship of the underlying demographic factors and impulsive buying behaviors seemed both logical and useful, and is deserving of further study.

Matt Swan (2012) in his analysis talked about accelerating traffic through mobile devices over the past years. Those who have launched mobile optimised sites complete with affiliate tracking are testament to that. He

explained the launch of mobile website for the ecommerce website has increased the traffic towards these websites by driving multi channel sales to the online stores. This mechanism of secondary sales does leads to increased user access to the websites. The results of this report helped the markets understand the reason of consumer behavior while visiting their website and finding out the way to enhance their marketing strategies in order to increase the popularity and sales of their websites. Concentrating toward the mobile offerings of their store, such as launching free applications for smart phone for the customers so as to ease the access the websites and also enhance the flexibility of the usage. Store owners and advertisers who have implemented mobile applications into their websites, these smaller versions have not only helped them to increase sales but also drawn more customers, and increased per person spending over shopping via mobile applications. The reason behind this can be understood as the ease of usage, which increases customer interest and maintains their trust over the retailer. We have seen a number of large advertisers launch sites with our affiliate tracking in place since our first white paper.

Rashad Yazdanifard (2011) did a research about the areas affecting m commrec. His article has looked at some of the most sensitive arias of the new mobile commerce such as, bank transaction systems because it engages with large amounts of money every day. Therefore he deduced that "the system used for transactions has to absolutely secure and to be free of corruption as mentioned earlier in the article; business will lose customers if the mobile security system is not secure enough. On the other hand he also discussed the variety of ways of how our mobile commerce works and how it is been improved through the years." His study also discussed the various protocols devised to implement safety measure over the internet. The transaction over internet are safeguarded by an inactivity lock out. This technique automatically logs out the user from the transaction in case there occurs a loss of connection while the secured transaction is going on, This technology ensures that any kind of transaction does not get caught into wrong hand in case any network or transaction error happens.

Agnieszka Zmijewska (2007), did a research on m-payments, which refer to payments over a mobile device. The aim of this study is to find out what influences the user acceptance of a new system. The study deduced that acceptance for m-payments have not taken off as fast as predicted. Their slow adoption rates raise many questions about what drives consumer behavior. He explains in his study that "The user is seen as the key to acceptance of a new m-payment procedure, hence the focus on understanding their motivations and attitudes. To predict acceptance, Technology Acceptance Model (TAM) has been extensively used in information systems." The study is based on the principle that the TAM is needed to be expanded according to the characteristics of mobile commerce in order to maintain a perfect fit. But it has been derived from the previous studies involving TAM. Extensions of TAM in related fields are depicted. The result of the analysis are presented in the form of factors that are believed to have an impact on the user acceptance of mobile payments: "perceived ease of use, usefulness, mobility, cost, trust, and expressiveness." In the analysis each of the six factors have been measured one a multi item scale, which contained questions related to each of the parameter an and the respondent does not generally knows that which question relates to which factor.

Enrique Bigné (2007) conducted a research and an article on the same was publised in August 2007. The study concludes "the adoption of new communication technologies is best predicted by the adoption of functionally similar technologies and user perception toward them". This means that M-commerce acceptance by any user is highly dependent on his previous experience with m-commerce technology. This might even be a mobile originated purchase which has an impact on his behavior and can increase the probability of future purchases. This also deduces that mobile commerce does not depend on users' experiences of e commerce. Hence "Consumers who have purchased a product or service through Internet have broken the barriers to non-store shopping and therefore are more predisposed to M-commerce. Internet shopping experience has also been found to be a positive influence on M-commerce attitude, perhaps due to important complementarity between the two shopping methods, as the mobile is one of the main formats for Internet access. This attitude leads to greater levels of M-purchase and more favorable future behavior intentions."

Users' present attitude towards M-commerce can be helpful in predicting his actual and future M-commerce behavior. It was also proved that the users having best knowledge and opinion about the system have the higher probability of using the system in future. This is because the greater is the knowledge about the technology, greater with be their trust and acceptance towards it. He concluded that "Mobile Affinity, frequency of Mobile use and length of mobile use influence M-commerce frequency." This results holds congruence with the studies done earlier, showing that, the level of knowledge about a medium has a direct impact on the users' acceptance for the mode of that medium. Hence higher in the knowledge of technology is there to an individual, greater is his probability to use a facility involving that technology.

A.S. Andreou (2006), talked about M-Commerce as an evolving area of e-Commerce, in his report "Mobile Commerce Applications and Services: A Design and Development Approach". He defined m-commerce as "A platform where users can interact with the service providers through a mobile and wireless network, using mobile devices for information recovery and transaction processing." M-Commerce services and applications can be adopted through different wireless and mobile networks, with the support of numerous mobile devices. Although there are many systems supporting mobility and many solutions for wireless access, there are issues affecting the performance of the various mobile systems that need to be considered in the design of m-Commerce services and applications. The mobile devices exhibit various drawbacks as compare to the desktop systems. While designing m-commerce services, it is important to take into consideration various limitation as well as need of the mobile devices which have to but be used for the purpose of taking these facilities. Services and applications are designed and developed according to these requirements and constraints of the devices. According to him "m-commerce services and applications can be classified based on the functionality they provide to the mobile users for allowing easier identification of constraints posed on the design and development process." This kind of classification hence resulted in two major classes: the directory and the transaction-oriented services and applications, with their unique properties.

Adam Vrechopoulos (2003) in his article "The critical role of consumer behavior research in mobile commerce", published in September 2003 explained the changing role of mobile communications which is reflected in the increasing use of mobile devices for e-commerce purposes. His study underlines the critical role of consumer behavior research in mobile commerce and investigates the critical success factors towards mobile commerce diffusion, through an exploratory research approach, focusing on B2C markets. In the research, an online consumer survey ran in three European countries (Finland, Germany and Greece). The results showed that mobile commerce (m-commerce) penetration in Europe is in its infancy. In addition, significant differences regarding consumer attitudes towards mobile commerce were observed among the countries investigated. Lower prices, improved security, improved devices and effective customer support, proved to be the critical success factors towards accelerating m-commerce consumer adoption. It is concluded that the customisation of the marketing mix to the specific characteristics of each target market is a key success factor for mobile operators in Europe.

RESEARCH METHODOLOGY

The objective of the research is to examine the factors that can significantly explain user acceptance of mobile commerce. Technology Acceptance Model for the same has been adopted which is having two factors, perceived ease of use and perceived usefulness. Various parameters which can have an impact on these two factors were decided and questions were framed based on them.

Hypothesis

H_o1: Perceived ease of use does not have an impact the mobile commerce acceptance of the user.

$H_1 1$: Perceived ease of use has an impact on the mobile commerce acceptance of the user.

H_o2: Perceived usefulness does not have an impact the mobile commerce acceptance of the user.

H_12: Perceived usefulness has an impact on the mobile commerce acceptance of the user.

The research methodology to be used or this research is primary research, wherein the questionnaires were filled from mobile phone users. All mobile users in the NCR region were considered as the universe of the study as each and every mobile user is a potential consumer who can switch to shopping from the mobile. Out of the universe the sample that was selected was educated, young, urban population with the age ranging between 15 and 30 years. This sample frame is composed of students, professionals and business men. The reason for selecting such a sample was that population with the above description is well acquainted with technology and also has the purchasing power to experiment with such technology. Other than this, such individuals also have fairly good idea where they would go to purchase a particular product which varies according to the product. The sample size of this survey is 150 users who filled the questionnaire and have the above mentioned description. SPSS and Excel were used for analyzing the responses obtained from the survey and the results of the same have been provided in this report.

DATA ANALYSIS

Mobile Handset

Table 1
Mobile Handset

Parameter	*Frequency*	*Percentage*
Android	107.92	71
i-OS	27.36	18
Others	16.72	11
Screen Size		
2-3“	15	9.87
3-5 “	92	60.53
5-7“	45	29.61
Internet Connection		
2G	29	19
3G	86	57
4G	23	15
Wi-Fi	14	9
Total	152	100

The basic requirement for m-commerce is an internet enabled smart phone/ handheld device. The respondents were asked to name their mobile device platform, Screen size and Internet Connection. The results show that maximum of the respondents use an android device followed by iPhone. This number helps us understand the availability of the facilitating instruments for the respondents. The size of the phone screen is another important parameter in deciding the perceived ease of use factor. Bigger is the mobile screen, easier it is for the user to use internet and other websites over it. The results shows that the most preferred screen size is 3-5“ followed by 5-7“. Internet connection is again a parameter affecting ease of use. Because faster is the internet connection, more likable is mobile shopping. This also due to the security reason during online payments, which are only possible if the internet, is working well and is secured.

SHOPPING PATTERN

Perceived usefulness can be dependent on the respondent's frequency of shopping. If a person does not get to go to market very often the online shopping can be a substitute for the same. This in turn again increases the likability of mobile shopping because it increases flexibility and mobility.

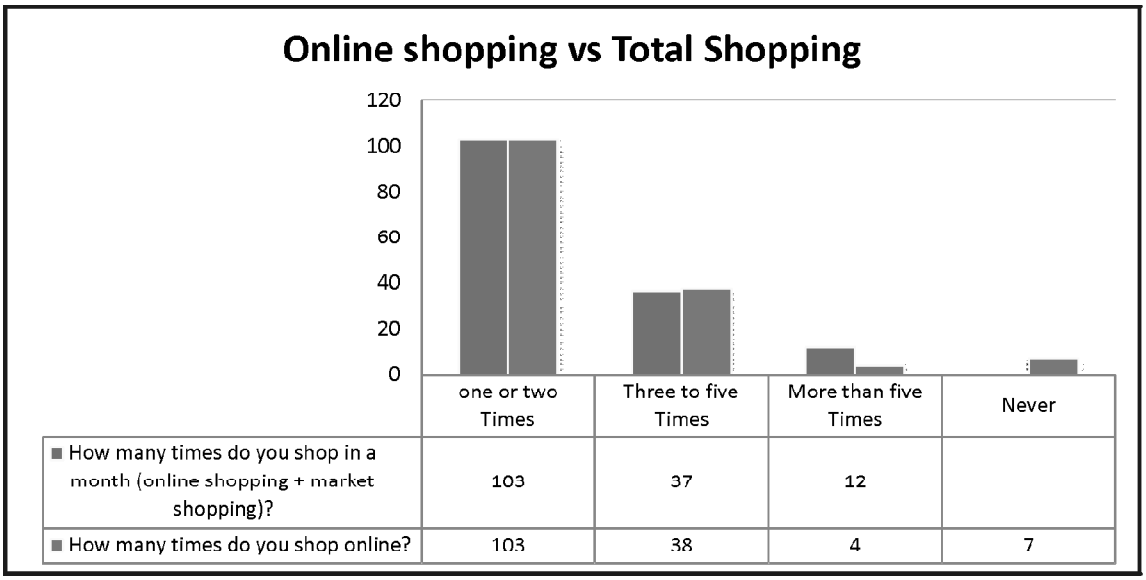

Figure 3: Comparison between online and total shopping frequencies

Fig 3 shows that the respondents with lower shopping frequency go more for online shopping than as compared to people with higher frequency. People with higher frequency have greater exposure to market and hence are more selective while buying products.

M-COMMERCE USAGE

The respondents were asked to rate the following statement on scale of 1-5 where 1 refers to 'Strongly Agree' and maximum value 5 denotes 'Strongly Disagree', results of the table 2 shows the Mean values and standard deviation for each question along with significance of difference.

One can very well say based on the results that age acts as one of the most important parameter deciding the level of acceptance for any technology. It is always said that younger generation accepts the technology quicker than the older ones. In the results, for all the parameters there is significant difference pertaining to age. Except for the questions related to speed of the internet connection and its effect over mobile net surfing interest. Most of the user agree to the point that have a speedy internet connection and their interest for internet surfing get affected by the speed. This opinion does not get affected by their age. Hence we can say speed of internet play the role of an important deciding factor for the likability of use of mobile commerce amongst the respondents.

RELATIONSHIP BETWEEN PERCEIVED EASE OF USE, PERCEIVED USEFULNESS WITH MOBILE SHOPPING

Regression Analysis

R-Square, also known as the Coefficient of Determination is a commonly used statistic to evaluate model fit. It represents the proportion of variability of Y explained by the X's. From the above table, R Square is 0.541 which

Table 2
One Way ANOVA Table with Mean and Level of Significance

Statements	*15-20 years*		*21-25 years*		*26-30 years*		*>30 years*		
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*P-value*
I frequently search for products over my mobile	1.6667	0.57735	2.1371	1.06942	1.4545	0.67098	1	0	0.009*
I like to search products over my mobile	1.6667	0.57735	2.1371	1.06942	1.4545	0.67098	1	0	0.009*
I frequently purchase products using my mobile phone	1	0	1.8226	1.08985	1.5455	0.50965	3.3333	0.57735	0.020*
I like to download ecommerce applications on my phone	2	0	2.9435	0.98197	2.8636	0.99021	1.6667	0.57735	0.058**
I use a smart phone to surf internet	1	0	1.5968	0.99527	1.3182	0.47673	3.3333	0.57735	0.004*
Mobile shopping saves time and effort	2	1	2.2177	1.00858	1.9091	0.4264	2	0	0.533NS
I do not get to visit market very frequently	2.6667	1.1547	2.6371	0.96554	2.0909	0.29424	1.6667	0.57735	0.023*
Online retailing website provide better discounts than traditional stores	2	1	1.5645	0.82877	2.0455	1.0901	1	0	0.053**
Mobile shopping gives me freedom to shop anywhere and anytime	2	1.73205	2.0484	0.91824	1.5	0.51177	2.3333	0.57735	0.057**
Mobile versions of ecommerce websites have made shopping experience better	2.6667	1.1547	2.7097	1.04977	3.4091	1.14056	4	0	0.009*
I find mobile shopping more convenient than shopping through laptop/computer	3.6667	1.1547	3	1.17563	2.4545	0.9625	1.3333	0.57735	0.012*
Mobile payment are convenient & safe	3.3333	1.52753	2.6613	0.93606	2.5	0.74001	5	0	0.000*
My internet connection is quiet fast	1	0	1.6855	0.96581	1.4545	0.73855	1.6667	0.57735	0.457NS
I do not face problem while making payments using mobile phone	2	1	2.5484	1.14306	2.0455	0.84387	4	0	0.019*
It is convenient to surf products over mobile phone	1	0	1.9435	1.0065	1.5909	0.50324	4	0	0.000*
Speed of internet connection affects my interest of surfing over mobile	2	1	2.2258	1.22201	2.4091	1.09801	1	0	0.290NS
I prefer to recheck a product over computer before ordering it	1.3333	0.57735	1.8952	1.02663	1.7727	0.68534	4	0	0.002*

NS-Not Significant **-significant at 0.1 *-significant at .05

shows that there is a significant relationship between Perceived ease of use, Perceived usefulness and Mobile shopping. Results show that 54.1% of the variations in Mobile shopping is explained by Perceived ease of use and Perceived usefulness.

Table 3
ANOVA[b]

Model		*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig.*
1	Regression	55.175	2	27.587	87.789	.000[a]
	Residual	46.823	149	.314		
	Total	101.998	151			

a. Predictors: (Constant), Perceived Ease of Use, Perceived Usefulnessb. Dependent Variable: Mobile Shopping

The F = 87.789 and P-value is 0.000 in table 3, this shows that there is a great deal of evidence to infer that the model is valid

Table 4
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	*Std. Error*	*Beta*	*T*	*Sig.*
1	(Constant)	-1.193	.258		-4.630	.000
	Perceived Usefulness	.517	.111	.287	4.658	.000
	Perceived Ease of Use	.930	.102	.563	9.129	.000

Interpretation: The equation can be framed as

$$A = - 1.193 + .287\ U + .563\ E$$

Where,

A - Mobile Shopping

U - Perceived Usefulness

E - Perceived Ease of Use

From the above equation it can be interpreted that, since U and E are positive which shows there is a positive relationship between A and U and E.

It also shows that keeping all other variables constant, a 1% change in factors in Perceived Usefulness affects the Mobile Shopping behavior by 28.7%, interestingly the 1% change in the factors in Perceived Ease of Use the Mobile Shopping behavior mostly by 56.3%.

Hence we can interpret that Perceived ease of use and Perceived usefulness does have an impact on the mobile shopping behavior of the users and affects user acceptance of m-commerce technology. As discussed earlier, Perceived ease of use is composed of parameters such as frequency of shopping and accessibility to market, we can infer that both these factors do have an impact on the acceptance of mobile commerce. Also, the mobile device type, size of the screen, security issues, internet connection type and mobile usage likeability are the determining factors in the m-commerce acceptance by the users. Better the usage conditions be, more popular becomes mobile shopping amongst today's tech savvy population.

DISCUSSION AND CONCLUSION

Technology acceptance model is used to find out the acceptance of any kind of technology amongst the users. Importance of the model is to analyse the impact of any new technology pre and post launch. The study here provides a picture of m-commerce acceptance amongst the mobile internet users of Delhi NCR. Advantage of study can be taken in finding out various factors that have an impact over mobile shopping acceptance for customers. These factors can now be worked upon so as increase the popularity of mobile commerce and applications of e-commerce websites. This in turn will increase the total sales through these websites by increasing the traffic as well as the frequency of visits by each user. The analysis in the report explains about the acceptance of m-commerce amongst the respondents. With the help of regression analysis it has been proved that the parameters of TAM i.e. perceived ease of use and perceived usefulness have a direct impact on the mobile commerce acceptance by a user. The study also revealed that the popularity of m-commerce is directly dependent on the internet usage and e-commerce acceptance. Hence in no ways can m-commerce surpass e-commerce very soon. M-commerce acceptance is also affected by a person's frequency of shopping and accessibility to market. Those who have higher shopping frequency and can go to market very often do not prefer mobile shopping. The total spending also has an effect on the online shopping behavior as people with highest spending do not go and shop online and rather prefer to see the product manually in real before making decisions.

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