A Study on Customers’ Attitude towards Mobile Banking Adoption in India

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ABSTRACT

This study aims to assess the influence of awareness on customers’ attitude towards M-BANKING in Delhi. It investigates whether the attitude varies among M-BANKING users on the factors such as perceived ease of use, perceived usefulness, perceived security & privacy and perceived risk due to difference in their degree of awareness on these factors. The study uses pre structured questionnaire for survey using non-probability sampling. Factor analyses and regression technique were employed to study the relationship. The results show that difference in customers’ attitude among M-BANKING users depends up on the difference of their degree of awareness on factors such as perceived ease of use, perceived usefulness, perceived security & privacy and perceived risk.

The small sample size is representative of the respondents from Delhi only who were selected through non-probability sampling. This has an effect on the generalization of the findings. Future research may be conducted on larger sample size to examine the influence of awareness on customers’ attitude including some other factors such as reliability, safety, cost and compatibility, personal innovativeness in information technology (technology support) etc. This paper suggests managerial implications for retail bankers in Delhi to increase the degree of awareness among M-BANKING users.

The influence of awareness on customers’ attitude towards M-BANKING was assessed by measuring the degree of awareness of constructs defined in Technology Acceptance Model (TAM) and of two new constructs “Perceived security & privacy” and “Perceived risk”. Reliability of the factors was estimated by using Cranach’s Alpha.

Key words: Customers’ awareness, M-Banking, Security & Privacy, perceived risk, Technology Acceptance Model (TAM)

INTRODUCTION:

Mobile Banking (m-Banking), the newest channel for the delivery of Banking services, has almost transformed branch Banking into virtual one-stop-shop. The definition of M-BANKING varies amongst researches partially because Mobile Banking refers to several types of services through which bank customers can request information and carry out most retail Banking services via computer, television or mobile phone (Daniel, 1999; Mols, 1998; Sathye, 1999). Turban et al. (2004). describes that M-BANKING offers electronic services that allow customers to check the balances in their accounts, transfer funds among accounts,
pay bills electronically as well as apply for loans, download information about accounts into their own computers, trade stocks or mutual funds, look at images of their cheques and deposit slips.

Customers’ degree of awareness of m-Banking influences their attitude towards adoption of m-Banking. The literature on M-BANKING also supports those individual factors like knowledge (Sathye, 1999; Polatoglu and Ekin, 2001) has an impact on customer’s adoption of m-Banking. Sathye (1999) emphasized that many customers were simply unaware of internet Banking and its unique benefits. Here knowledge denotes to the customers’ awareness of m-Banking and the benefits associated with it, and their awareness of how to perform baking transaction through m-Banking. Sathye (1999) observed that the lack of awareness about Mobile Banking and its benefits contribute to the non-adoption of Mobile Banking. Additionally, Polatoglu and Ekin (2001) indicated that the more knowledge and skills a customer possessed about Mobile Banking, the easier it was for the customer to utilize Mobile Banking. It is essential that the banks offering M-BANKING services should make the customers aware about the availability of various services and their benefits and educate them about security & privacy and risk involved in M-BANKING transaction.

In India, comparatively fewer studies have been conducted on the current status of awareness and attitude towards M-BANKING. Thus, there is a lot of scope for the research to present new ideas regarding awareness and its influence on customers’ attitude towards m-Banking in India which may be useful to the Indian Banking industry.

**PROBLEM STATEMENT**

The main focus of current study is to assess the influence of awareness on customers’ attitude towards M-Banking. For this purpose, the influence has been assessed by measuring the degree of awareness of constructs defined in Technology Acceptance Model (TAM) and of two new constructs “Perceived security & privacy” and “Perceived risk”. Customer awareness of M-BANKING has been considered significant to influence customers’ attitude with respect to perceived ease of use, perceived usefulness, perceived security & privacy issues and the perceived risk. The study is expected to examine whether there is any significant relationship between the degree of awareness, perceived ease of use, perceived usefulness, perceived security & privacy, perceived risk and customers’ attitude towards M-Banking.
OBJECTIVE OF THE STUDY

The primary objectives of the study are:

To study the degree of awareness among bank customers towards m-Banking.

To assess the influence of awareness on attitude of bank customers to adopt m-Banking.

To suggest some strategy to build positive attitude of bank customers towards m-Banking.

RATIONALE OF THE STUDY

Earlier review showed that there were fewer studies conducted measuring the degree of awareness. But there was no of the past study conducted particularly in Indian perspective that had formed all of these four independent variables (perceived ease of use, perceived usefulness, perceived security & privacy and the perceived risk) in one model and specifically, the influence of awareness of these variables on customers’ attitude towards M-Banking. The current study adds to the already existing research literature and explores the degree of awareness of M-BANKING in Delhi, India. It also assesses their influence of awareness on customers’ attitude in Indian context.

Mobile Banking

Mobile Banking services were first offered by Kenya and Philippines in the world. M-PESA – Kenya: M-PESA is the first mobile banking solution in the year 2007 by the telecom operators Safaricom & Vodafone. It has captured the majority of the market in Kenya and is very popular among the customers. SMART Money and G-Cash Philippines: Philippines launched SMART money, which is an electronic wallet and users do most of its banking transactions through mobile only.

There is a great scope of mobile banking in India as the number of mobile users is increasing. This is because of an increase in the number of wireless internet user subscriber base in India i.e. 143.2 Million (TRAI, 2013). In the year 2008, 3G was launched by MTNL (Mahanagar Telephone Nigam Ltd.) and IMPS (Immediate Payment Service) was also launched in 2010. After these initiatives and developments by RBI, mobile banking services have increased many folds and RBI issued the guidelines for banks to provide mobile banking services in India in the year 2008. These are:
Only such banks which are licensed and supervised in India and have a physical presence in India will be permitted to offer mobile payment services to residents of India.

The services should be restricted to only to bank accounts/ credit card accounts in India which are KYC/AML compliant.

Only Indian Rupee based services should be provided.

Banks may use the services of business correspondents for extending this facility, to their customers.

The guidelines with regard to use of business correspondent would be as per the RBI circulars on business correspondents issued from time to time.

The ‘Risks and Controls in Computers and Telecommunications’ guidelines will equally apply to mobile payments.

The “Know Your Customer (KYC)” and “Anti Money Laundering (AML)” as prescribed by RBI from time to time would be applicable to customers opting for mobile based banking service.

LITERATURE REVIEW

To understand the adoption behaviour of users, many researchers have done research on the factors that helps in determining the acceptance and the attitude of users towards mobile banking. TAM (Technology Acceptance Model), TPB (Theory Planned Behaviour), IDT (Innovation Diffusion Model) (see Figure 5,6,7) have been discussed by Bhatti (2007) and Sadi and Noordin (2011) and they claimed that all the 13 factors i.e. Perceived Usefulness, Perceived ease of use, Personal Innovativeness, Perceived Trust, Perceived Cost, Subjective Norm, Social Influence, Self-Control, Perceived Behavioural Control, Facilitating condition, Self-Efficacy, Attitude towards use, and Intention to use M-commerce are statistically significant and by using exploratory factor analysis they concluded that the mere introduction of M-commerce is not sufficient but focus should be laid on the improvement of attributes that effect the M-Commerce adoption. Out of all the factors, perceived usefulness is found to be the critical factor thus, the service provider should take care that customers should perceive their services as valuable and useful to keep up with their fast paced lifestyle. This research also found that trust is also an important factor and should be taken into consideration by the Service providers; if consumers do not feel secure they will be reluctant
to use the services. (Kim, Shin, and Lee 2007). It is also found that people have less trust in the mobile banking services and personal disposition to trust played a positive role in developing initial usage in mobile banking. To some extent the success of acceptance of M-commerce transactions depends on the customer as well as vendor’s trust (Singh, Srivastava, & Srivastav, 2010). Kim, Shin, and Lee (2007) and AL-Majali and Mat (2011) also discussed that if customers believe that a mobile banking firm is able to develop effective service delivery strategies and provide adequate protection from fraud and violation of privacy, then adoption (or continue-to-use) intentions of the mobile phone users will increase.

Amin Hanudin (2007) studied technology acceptance on internet Banking among undergraduate students in Malaysia based on modified version of Technology Acceptance Model (TAM) and developed a technology acceptance model for internet Banking. The result suggested that perceived usefulness (PU), perceived ease of use (PEOU) and perceived credibility (PC) had significant relationship with behavioral intention. Further these measures are good determinant for undergraduate acceptance for internet Banking. Results also suggested that PU and PEOU had a significant relationship with computer self-efficacy (CSE). The study is useful in providing the understanding of the TAM among undergraduate from Malaysians’ perspective.

Chnadra Abha and Sharma. V. (2010).The results of this study showed that banks have posted least number of privacy policies. The interactive sites collected more personal information than sites that were not interactive. The analysis shows that new private banks and foreign banks have posted maximum number of privacy policies (63%) on their websites.

Dar Nouman Anwar (2011). Electronic distribution channels provide alternatives for faster delivery of Banking services to a wider scope of customers. But despite all the opportunities and benefits created by the m-Banking, there are still many challenges that are present in the financial sector. There are also some limitations of M-BANKING as it requires awareness, knowledge and skills to operate it.

Dixit and Datta( 2010).An empirical study by Dixit and Dattastated that many factors like security &privacy, trust, innovativeness, familiarity, awareness level increase the acceptance of M-BANKING services among Indian customers. The result also showed that in spite of their security and privacy concern, adult customers are willing to adopt online Banking if banks provide them necessary guidance.
Geetha K.T. &.Malarvizhi .V. (2011). It was an empirical investigation that depicts many factors like security and privacy and awareness level increased the acceptance of M-BANKING services among Indian customers. The finding indicated that if banks provide them necessary guidance and ensure safety of their accounts, customers are willing to adopt m-Banking.

Mansor et al. (2012). This study showed that promotion is very important in the creation of awareness toward the online services. Therefore the banks management has to ensure their promotions activities must be carried out continuously in efficient ways. Special promotional tools for SMEs are necessary since they formed as a special group of the high end customers that needed different treatment as to those of individual users.

Munusamy et al (2012). This study aimed to identify the perceptual differences between Internet Banking Adopters and Non-adopters especially in the Malaysian Retail Banking Sector. The results indicated that there are significant differences in perception between internet Banking adopters and non-adopters in terms of easier to operate, convenient, no hassle, reliable, safer to use and requirement for good Internet connections.

Musiime and Ramadhan (2011). The study recommended that more emphasis and efforts be laid on targeting individual clients. In addition, Internet Banking service providers ought to look out for indicators of innovative ways of creating awareness about the service through participation in trade organizations, exhibitions as well as adoption of new technologies of Internet Banking.

Nasri (2011). The results of the study clearly stated that use of internet Banking in Tunisia is influenced most strongly by convenience, risk, security and prior internet knowledge. Only information on online Banking did not affect intention to use internet Banking service in Tunisia. The results also proposed that demographic factors impact significantly internet Banking behaviour, specifically, occupation and instruction. Finally, this paper suggested that an understanding the factors affecting intention to use internet Banking is very important to the practitioners who plan and promote new forms of Banking in the current competitive market.

Safeena.et al. (2011). The results indicate that PR, PU and PEU on online Banking were found to be the most influential factors explaining the use of online Banking services. The result shows that PR is negatively related to the adoption of IB use . Also it shows that PU
and PEU has positive relation with IB use. This finding refers to the fact that customers use online Banking for the benefits and also due to its easiness in use which provides in comparison to other Banking delivery channels.

T. Ramayah et al. (2003). T. Ramayah et al conducted a study about Internet Banking acceptance in Malaysia. They found that although the awareness level is high, this has not translated into actual use as only 23% have had some Internet Banking experience. Security, availability of infrastructure and complexity of technology were main concerns reported by the respondents which is hindering the migration from traditional Banking to Internet Banking. In terms of external variables only prior experience and external pressure has been found to influence the intention to use. Perceived ease of use and perceived usefulness has been found to be significantly related to intention and perceived usefulness has been found to be a better predictor of intention to use compared to ease of use. In short it could be concluded that perceived usefulness is the driver of the intention to use Internet Banking.

Uppal (2011). On the basis of analysis, the study concluded that the private sector banks are on the top in providing the I-Banking services to their customers and have high profitability as compared to other bank groups under study except foreign banks. The study also highlighted the benefits of i-Banking to customers as well as to bankers and suggests some strategies with their possible solutions like to spread awareness regarding I-Banking and to increase its area and scope to enhance I-Banking services in India, particularly in rural and semi-urban areas.

Zaman et al (2011) This study examined the customer perception, preferences, problems and suggestions about online Banking in Pakistan. The study revealed that mostly customers prefer internet Banking (IB) services over branch Banking due to reliability, convenience, speed, safety and security, cost effectiveness, user-friendly, and error free system. In contrast the parallel finding showed that security problems, lack of trust and knowledge, ATM machine problems etc. affect the adoption decision of customers of internet Banking services. The services which are not in Pakistan e.g. Cash depositing facility through ATM machines, “SMS/E-mail Alert” Service, Transfer funds through ATM machines, Payment of utility bills through internet are found most required /demanding services by the customers in this study.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT
The figure (theoretical framework) below was formulated on the basis Technology Acceptance Model (TAM) (Davis, 1989). The constructs of TAM are perceived usefulness and ease of use which are considered as the main predictors for the attitudes, intention and actual system used. In the current study, two more independent variables have been included in TAM. And a new model consisting these four variables (perceived ease of use, perceived usefulness, perceived security and privacy and perceived risk) has been proposed as the predictor customers’ attitudes. (Davis, 1989). Said that there is a possibility of good exploration with the inclusion of new predictor factors in TAM to understand and investigate the rigorousness of this theory in different context and situation. Thus the study will be particularly to provide an insight of how degree of awareness plays a significant role in molding the attitude of existing bank customers towards m-Banking.

The degree of the awareness will be further measured as to what extent does the four independent variables such as perceived ease of use, perceived usefulness, perceived security and privacy and perceived risk are significantly indispensable in influencing the attitude of the bank customers. Earlier review indicated that there were none of the past study stated that all these four independent variables that were formed in one model will generate an effect on the awareness among bank customers in Indian context. Earlier discussion of the importance for each variable provides evidence that was able to create awareness among bank customers as been proved by different authors such as Agarwal and Prasad (1999), Davis et al,(1989), Hu et al, (1999), Venkatesh (1999), Venkatesh and Davis (1996) for perceived ease of use, Araujo and Araujo(2003),Noteberget al. (2003). for perceived usefulness, Sathye(1999) Daniel(1999), Hamlet and Strube (2000), Tan and Teo ( 2000), Cox and Dale ( 2001), Black et al. (2002,) for perceived security, and Pavlou(2003), Ruyter et al. ( 2001) for perceived risk. However this study will combine all the four factors and form them into one model that will create awareness among bank customers. The relationships between these variables are further explored through the following hypotheses:

**AWARENESS**

Kotler et.al. (2004) stated that the concept of awareness attempts to explore how the customers establish the knowledge of the products or services and to what extent they are lacking of information about it. As claimed by Sharon (1999), we need to raise the awareness of Banking customers as the industry are offering a wide range of customer products beside various alternatives that are made available by Banking institutions in securing their competitiveness. Sathye (1999) said that while the use of internet Banking services is fairly
new experience to many people, low awareness of internet Banking is a major factor in causing people not to adopt internet Banking. Sathye (1999) conducted an empirical study in Australia and found that customers were unaware about the possibilities, advantages/disadvantages involved with internet Banking. On the other hand, Polatoglu and Ekin (2001) conducted an study on Turkish customers and confirmed that the more knowledge and skills a customer possessed about Mobile Banking, the easier it was for the customer to utilize Mobile Banking. According to (Leppaniemi, et. al., 2006; Tanakinjal, et. al, 2010). there were concerned on addressing the issue of privacy and security risk, and personal data security that needed more attention. This is relatively important as when perceived risk is low, it will normally resulted on trustworthiness of the service offered (Tanakinjal, et. al, 2010). Although customers are often faced with some degree of risk or uncertainty in using m-Banking, however the risk element itself is not the main predictor that customers are sensitive with (Kim, 2008). Thus, customers with higher degree of awareness of m-Banking are more likely to perceive m-Banking as more useful, easy to use, more secure and lower the perceived risk, that influences their attitude towards m-Banking. Therefore, the following hypotheses are proposed:

H1: Degree of awareness (DOAW) of bank customers on M-BANKING has a positive effect on the perceived ease of use of m-Banking.

H2: Degree of awareness (DOAW) of bank customers on M-BANKING has a positive effect on the perceived usefulness of m-Banking.

H3: Degree of awareness (DOAW) of bank customers on M-BANKING has a positive effect on the perceived security & privacy of m-Banking.

H4: Degree of awareness (DOAW) of bank customers on M-BANKING has a negative effect on the perceived risk of m-Banking.

PERCEIVED USEFULNESS (PU)

Perceived usefulness was defined as the degree to which individuals believe that using a particular system would enhance their job performance (Davis, 1989). He further stated that the decision to use new technology is determined by the extent to which a person believes that it is cost effective in providing goods or services compared to the current method. Davis (1989). In this advanced age people are wise enough to select an application that, they
perceive, will help them in their performance (Aderonke, Charles, 2010) internet and mobile Banking services usage intention cannot be denied either directly or indirectly through its impact on perceived usefulness (Luarn and Lin, 2005). The PU is also an important variable from TAM (Araujo and Araujo, 2003; Noteberget al.2003). Thus, if customers perceive M-BANKING useful, then they are more likely to perceive M-BANKING as easy to use, secure and of less risky that may influence their attitude towards m-Banking. Hence the following hypotheses are proposed:

H5: Customers’ Perceived usefulness has a significant impact on their perceived ease of use of m-Banking.

H6: Customers’ Perceived usefulness has a positive impact on their attitude towards using m-Banking.

PERCEIVED EASE OF USE (PEU)

Perceived ease of use relates to the degree to which individuals believe that using a particular system would require no effort (Davis, 1989). The ease of use and accessibility has positive impact towards Internet Banking services (Poon, 2008). Ease of use is the factor that contributed to the acceptance of the Internet Banking services among customers and as well as with other factors such as enjoyment, information on Internet Banking and quality of the internet connection (Pikkarainen et al (2004); Wang et al (2003); Sathy (1999). Information technologies that are easy to use will be less threatening to the individual (Moon and Kim, 2001). It is also found that ease of use positively correlates with use of customer technologies, such as computer software (Davis, 1989), Venkatesh and Davis (1996). Suganthing et al (2001). Thus, the more the customer perceives M-BANKING as easy to use, the more he/she is likely to adopt m-Banking. Hence the following hypothesis is proposed:

H7: Customers’ Perceived ease of use has a positive impact on their attitude towards using m-Banking.

PERCEIVED SECURITY AND PRIVACY

Chung and Paynter (2002) conducted a survey and stated that a customer has a fear regarding transaction safety as an obstacle to the acceptance of Mobile Banking. Thorton Consulting (1996) said that limited security is one of the supreme hindrances on the way to the growth in the number of users of M-Banking. Further, Security has also been acknowledged as a main
customer distress in other internet Banking acceptance studies (Siu and Mou, 2005). Dixit (2010) revealed that the number of internet users increased dramatically, but they still do not trust with the e-commerce security. Poon (2008) also stated that privacy and security are key issues in discontent with the use of internet Banking. Earlier study indicated that security, privacy, and ease of use and usefulness are the factor in determining the adoption of M-BANKING services. Hence the following hypothesis is proposed:

H8: Customers’ concerned towards security & privacy has negative impact on their attitude towards using m-Banking.

PERCEIVED RISK

A number of recent studies (Liao and Cheung, 2002, Pavlou 2003, and Ruyter et al. 2001) have found customer risk perceptions to be a major obstacle to the future growth of e-commerce and e-services. According to Bauer (1960) who defined risk in terms of uncertainty and consequences associated with customer’s actions. Perceived risk increase with uncertainty and/or the magnitude of associated negative consequence (Hsi-Peng et al, 2005). Thus, It is clear that customers’ attitudes are influenced by risks that they perceive. As a result the lower the perception of risks involved in using M-BANKING the more likely they would be prepared to use it. Hence, the following hypothesis is proposed:

H9: Customers’ concerned towards risk of using M-BANKING has negative impact on their attitude towards using m-Banking.

RESEARCH METHODOLOGY

SAMPLE AND DATA COLLECTION:

With respect to the sampling, a convenience sampling was utilized to survey of 250 respondents from different occupations. A total of 300 self-administered questionnaire forms were personally given to respondents using convenient sampling. But only 250 questionnaires forms were found correctly filled and were used for data analysis. The reasons of using this sampling type were two fold. First, it offered an easy way to obtain the raw data for the further analysis. Second, it saved times and costs since the respondents could be randomly selected. The potential respondents were M-BANKING users.

MEASURES
The data for the study was collected in Delhi via a self administered questionnaire. The questionnaire was constructed in two sections. First section comprised items related to customers’ attitude towards m-Banking. Second section measured the demographic profile of the respondents. All the questions related to customers’ attitude towards M-BANKING were measured by using a 5 point Likert Scale ranging from 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree.

RESEARCH DESIGN

The research design of the paper was related to M-BANKING awareness in India. The present paper focused on the influence of awareness on customers’ attitude towards use of m-Banking. The present research was explorative in nature because the data that was already available but mainly regarding the foreign markets. This study intended to conduct the research in the domestic market, specifically in Delhi. Therefore data was collected from this region only. Primary data for this study was collected by means of a survey conducted in Delhi, India in August-September- 2015. Some statistical tools like Cronbach’s Alpha, Correlation, path coefficient, and t-statistics were calculated to get the desired results. SPSS version 20.0 was used to calculate all the statistical results.

RESULTS AND DISCUSSION

FINDINGS

The results of demographical characteristics of the respondents show that out of 250 respondents 150 i.e. (60%) were male and 100 i.e. (40%) were female. 168 i.e. (67.2%) of the respondents were in between age of 26 – 45. The respondents who belong to Bachelor and Master degree level are 194 i.e. (77.6%). 104 i.e. (41.6%) respectively of total respondents lie in the salary range of 20,000 to 30,000. Majority of the respondents belongs to three industries i.e. Education 29.6%, Telecommunication 15.2%, and Manufacturing 16.8%.

DEGREE OF AWARENESS OF M-BANKING SERVICES

The maximum awareness among the respondents is on ATM usage i.e.96% followed by online fund transfer 95.6%. While 73.2% of total respondents do not prefer online shopping as they may be afraid of security and privacy risk. 80.4% and 67.6% respondents are not aware of fund transfer and cash deposit facilities respectively using ATM. M-BANKING transactions using mobile phone are being used by 33.2% of total respondents only while rest
are either not aware or do not have confidence in it. 43.6% respondents do not make payment through credit/debit card as they may not be aware of its usage and terms and condition or may be concerned with some hidden charges etc.

FACTOR ANALYSIS RESULTS

The factor analysis was done in order to summarize the 17 variables in to smaller sets. The data was subjected to principal component analysis. Hence, these 17 variables were reduced to six principal components through varimax rotation. Items with factor loadings of 0.40 or higher were clustered together to form separate constructs, the same as recommended by Hair et al. (2006). Here, the researcher had considered only those factors whose Eigen-values are more than one, as significant.

RESULT OF RELIABILITY ESTIMATION

Reliability of the factors was estimated by using cronbach’s Alpha. The reliability values are given in table 1. The Cronbach’s Alpha for each variable is greater than 0.70, Therefore; the Cronbach’s Alpha (α) for the present research study is acceptable.

Table 1: Reliability Analysis

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of Awareness (DOAW)</td>
<td>0.796</td>
</tr>
<tr>
<td>Perceived Ease of Use (PEOU)</td>
<td>0.832</td>
</tr>
<tr>
<td>Perceived Usefulness (PU)</td>
<td>0.790</td>
</tr>
<tr>
<td>Perceived Security and Privacy (PSP)</td>
<td>0.814</td>
</tr>
<tr>
<td>Perceived Risk (PR)</td>
<td>0.840</td>
</tr>
</tbody>
</table>

CORRELATION ANALYSIS OF THE SELECTED VARIABLES

Table 4 shows the Pearson Correlation coefficient for all the independent variables. Awareness of M-BANKING amongst the respondents of Delhi was found to be positively correlated to the PEOU (r=0.573), PU (r = 0.323), PSP (r = 0.354), PR (r = 0.365) and ATEB (r = 0.020) for p < 0.01.

Table 2: Correlation of latent variables
Based on the above analysis, it can be concluded that Degree of awareness is the most significant factor influencing the attitude towards using M-BANKING services. Concerned towards Risk, Security & Privacy has negative influence on customers’ attitude towards m-Banking.

**RESULT OF HYPOTHESES TESTS**

The relationship between Degree of awareness and perceived ease of use was found to be significant (β =0.573) thus supporting hypothesis 1. The relationship between Degree of awareness and perceived usefulness was found to be significant (β =0.323) thus supporting hypothesis 2. The relationship between Degree of awareness and perceived security and privacy was found to be significant (β =0.354) thus supporting hypothesis 3. The relationship between Degree of awareness and perceived Risk was found to be significant (β =0.365) thus supporting hypothesis 4. The relationship between perceived usefulness and perceived ease of use was found to be significant (β =0.232) thus supporting hypothesis 5.The relationship between perceived usefulness and attitude towards M-BANKING was found to be significant (β =0.066) thus supporting hypothesis 6. The relationship between perceived ease of use and attitude towards M-BANKING was found to be significant (β =0.066) thus supporting hypothesis 7. The relationship between perceived security & privacy and attitude towards M-BANKING was found to be significant (β = - 0.050) thus supporting hypothesis 8. The relationship between perceived risk and attitude towards M-BANKING was found to be significant (β = - 0.008) thereby supporting hypothesis 9. Hence all hypotheses are supported.
Table 3: Result of hypotheses tests

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Effects</th>
<th>Path co-efficient</th>
<th>t-statistics</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>DOAW &amp; PEOU</td>
<td>0.573</td>
<td>10.998</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>DOAW &amp; PU</td>
<td>0.323</td>
<td>5.367</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>DOAW &amp; PSP</td>
<td>0.354</td>
<td>5.964</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>DOAW &amp; PR</td>
<td>0.365</td>
<td>6.167</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>PU &amp; PEOU</td>
<td>0.232</td>
<td>3.764</td>
<td>Supported</td>
</tr>
<tr>
<td>H6</td>
<td>PU &amp; ATTD</td>
<td>0.066</td>
<td>1.049</td>
<td>Supported</td>
</tr>
<tr>
<td>H7</td>
<td>PEOU &amp; ATTD</td>
<td>0.028</td>
<td>0.439</td>
<td>Supported</td>
</tr>
<tr>
<td>H8</td>
<td>PSP &amp; ATTD</td>
<td>-0.050</td>
<td>-0.793</td>
<td>Supported</td>
</tr>
<tr>
<td>H9</td>
<td>PR &amp; ATTD</td>
<td>-0.008</td>
<td>-0.121</td>
<td>Supported</td>
</tr>
</tbody>
</table>

CONCLUSION

The objective of this study is to measure the degree of awareness and its influence on customers’ attitude regarding m-Banking. The results show that awareness has significant influence on customers’ attitude towards the perceived usefulness, perceived ease of use, perceived security & privacy and perceived risk in using m-Banking. By using Pearson’s Correlation, it was found that degree of awareness has significant relationship towards dependent variables when correlated singly. From the result also, it has been analysed that Perceived Ease of use (PEOU) is the most influential factor by degree of awareness (DOAW) with $r = 0.573$ followed by perceived risk (PR) with $r = 0.365$ and perceived security (PSP) with $r = 0.354$ respectively. For further justification, from the result of hypotheses test, it once again revealed that all the four tested variables concerning PU, PEOU, PSP, and PR were significant. With this finding, all hypotheses on testing of association of the study were supported. Bank managers can make use of such information to develop appropriate strategies to retain the existing customers as well as to attract new customers to use M-BANKING services by increasing the degree of awareness.

RECOMMENDATIONS
The model has successfully proved that customers’ attitude is influenced by degree of awareness of M-BANKING security & privacy and risk along with other variables adopted from the TAM model. The present study has many implications. First, security & privacy banks not only need to visibly demonstrate concern for security & privacy with concrete solutions to improve trustworthy secure M-BANKING systems, and specifically protect personal information but also need to make the customers aware about upgraded banks’ security and privacy system. Banks should also inform the customers about implementation of new security policies, improved internal communication coordination, evaluated and upgraded services according to customers’ expectations. Banks should increase their ability to control and manage the various risks inherent in Internet Banking. Banks can use encryption, firewall, intrusion detection, and other related security devices to properly safeguard M-Banking security systems that may help to build confidence in M-BANKING security & privacy systems.

Second, perceived risk appears to be an important obstruct to the adoption of m-Banking. This highlights the fact that M-BANKING users are more concerned about fraud and identity thefts. Thus, banks should provide encryption and strong authentication to prevent fraud and identity theft. For example, building secure firewalls to avoid intrusion, developing methods for strengthening encryption, and authenticating websites in order to prevent fraud and identity theft are all measures that bank should undertake.

Third, for Perceived Ease of use and perceived usefulness, banks should organize education and training program to make the customers aware of M-BANKING operation. Bank should also inform about different benefits of using M-BANKING services. As people have higher degree of awareness of m-Banking, they will use the services that the M-BANKING can provide. Banks should provide free demonstration to bank customers to perform different bank transactions using m-Banking. As the education level increases, people who have attended the demonstration and training program should have more knowledge and skills and therefore perceived M-BANKING as more user-friendly and useful. Therefore, the customers’ attitude towards M-BANKING will be positively influenced.

LIMITATIONS AND FURTHER RESEARCH
The present study has some important limitations. First, the sample size representing different industry of respondents (Banking/Finance/Insurance 12, Education 74, Telecommunication 38, Manufacturing 42, Healthcare/Medical 22, Media/Advertising 16, Computer Related 18, Outsourcing/Services 6, Consulting 12, Retail/Wholesale 8, Other 2) is not large enough and is representative of the respondents from Delhi only who were selected through non-probability sampling. This has an effect on the generalization of the findings. Second, the model in the present study has measured the degree of awareness on four factors that may influence customers’ attitude towards m-Banking. However, there may be some additional factors that can influence customers’ attitude towards M-BANKING but have not been examined in the model. These limitations pave the way to future studies. Future research may be conducted to examine the influence of awareness on customers’ attitude including some other factors such as reliability, safety, cost and compatibility, personal innovativeness in information technology (technology support) etc. Furthermore, another interesting avenue for further research could be a detailed study on influence of degree of awareness on customers’ attitude towards M-BANKING including respondents from different backgrounds with large sample size and larger geographic region.

REFERENCES


