MOBILE BANKING AND TECHNOLOGY ADOPTION: PERSPECTIVE OF CHANDIGARH YOUTH

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Abstract

The study aims at adapting the technological acceptance model (TAM)for the use of mobile banking service by the youth of Chandigarh. Four dimensions were focused upon, namely perceived ease of use, perceived usefulness, attitude and awareness and behavioral intention to use. In light of this, the study extends these essential dimensions and factors in order to expand in line with the banking business especially in using mobile banking services. The development of the two hypotheses was based on the dimension of study as well as on the related literature. A questionnaire consisting of (16) questions covering the dimension and hypotheses of the study was designed in order to collect the required data for examining hypotheses and reaching conclusions. The standardized questionnaire used in this study wasdistributed to a sample of (114) youth of Panjab University, Chandigarh. The hypotheses were tested using baron and Kenny model.It was found that all the variables used in this study has given the relationshipbetween the dimensions of conceptual model. The statistical analysis showed positive (strongest) correlation between all these dimensions between perceived ease of use and behavioral intention to use mediated by awareness and attitude with a value of coefficient correlation.As for the dimension, a stronger correlation was found between perceived usefulness and behavioral intention to use mediated by awareness and attitude with a value of coefficient correlation.

Keywords: *Technology, Mobile banking, Perceived Usefulness, Perceived Ease Of Use, Attitude, Behavior Intention to Use.*

INTRODUCTION:

These days the world is experiencing a significant speed up in the emergence and development of new technologies in various fields, especially in the products and services industry. Technology has been playing an important and active role in the improvement of the characteristics of the products and services. These products are offered with a variety of newfeatures for consumers, which require consumers who possess adequateexperience, skill and willingness to accept and use these products and services.

Mobile banking can perform various functions like transaction history, mini statement, funds transfers, SMS alert, checking of balance etc. with the help of mobile phones. Banks are continuously trying to increase their base by improving technology and by trying to reach each and every customer. Even the rural customers can get easy access to Mobilebanking whenever required.(Vinayagamoorthy and Sankar (2012).

During January 2008, ICICI bank started the first mobile services in India (Mr. V.Vaidyanathan, 2008). Also, SMS alerts were started in 2005-06. Almost 16.5per cent of wireless mobile phone users are usingmobile banking over their cellphones. (Alpesh Patel, 2013).

The rapid hikein mobile users through wide coverage of mobile phone networks, has made this medium atrouble freeplatform for extending banking services to every sector of banking client in general and the unbanked sector in particular. Banks are permitted to put forward mobile banking services (through USSD, SMS or mobile banking application) after obtaining required permission from the Reserve Bank of India, Department of Payment & Settlement Systems. Mobile Banking services are being made available to bank customers irrespective of the mobile network. (Source RBI,2016).

The present study focuses on the correlation among the above mentioned four dimensions and the importance of perceived ease of use and perceived usefulness. Moreover, it tries to establish that high degree of awareness and attitude moves hand in hand with behavior intention to use.

REVIEW OF LITERATURE:

The current study aims at adapting the technological acceptance model for the use of mobile banking services. Various studies have been conducted on mobile banking in India as well as abroad. This paper tries to fill the gap by studying the issues that youth majorly faces towards the usage of banking services through mobile communication devices by considering the attitudinal and behavioral aspects. Recently various factors have motivated the consumers to use mobile banking like Demonetization effect, waiving of transaction charges by telecom companies, free data by Reliance Jio, cash back offer by various mobile wallet apps etc , Therefore this study aims to capture the real essence of adoption of mobile banking services by the youth.

This paper reviews the literature by identifying differentreports, articles and research papers related to the adoption of mobile banking services. Researchers are using different models like Technology Acceptance Model (TAM), Theory of Panned Behavior (TPB) and

Innovation Diffusion Theory (IDT) which prove to be very helpful in determining the adoption of mobile banking services.

Many researchers have done research to understand the adoption behavior of users, on the factors that help in determining the acceptance, awareness and attitude of users towards mobile banking services. TAM (Technology Acceptance Model), TPB (Theory Planned Behavior), IDT (Innovation Diffusion Model) have been discussed by Bhatti (2007) and Sadi&Noordin (2011)   all the 13 factors i.e.Perceived ease of use, Perceived Usefulness, Personal Innovativeness, Perceived Trust, Social Influence, Self-Control, Perceived Cost, Subjective Norm,   Perceived Behavioral Control, Facilitating condition, Self-Efficacy, Awareness and Attitude, and Intention to use Mobile banking services claimed by the researchers which are statistically significant and by using the tool, exploratory factor analysis. They found that the introduction of Mobile banking services is not adequate but focus should be laid on the enhancement of attributes that affect the adoption of mobile banking services. Among all the factors, perceived usefulness is found to be the critical factor, thus, the service provider should take care that customers perceive their services as useful and valuable to cope up with their highly paced lifestyle.

Bhatti (2007), with the help of all the three models IDT, TAM and TPBexamined that perceived ease of use, perceived usefulness, subjective norm and perceived behavioral control are strong determinants for the adoption mobile Banking Services. The study has discovered that subjective norms and perceived behavioral control impact perceived ease of use and behavior intention to adopt mobile banking services by the users. Perceived control of users can be increased by offering them complimentary service for a short period of time.Speedy adoption of technology, due to its social influence, is being studied in terms of subjective norms and is found to be animportant factor as the behavioral intention is highly affected by peer group influence.

The Technology Acceptance Model (TAM) by Davis in 1986 is one of the model was attempted to address the process of acceptance of the technology used by the consumers. This model includes five factors: perceived ease of use, perceived usefulness, awareness and attitude, actual usage and behavioral intention. As per literature, many attempts were made to adapt TAM, such as: Dillon & Morris (1997) ,Venkatest (2000), Gelik& Yilmaz (2001), Chau & Lai (2003), andNokoo et al., (2013).Contrary to these adaptation of the TAM, the mobile banking services are found to gain an escalating importance in recent times. The same could be found in the published research of Laforet& Li (2005), Clark (2008), Chung & Kwon (2009), Rommile&Nel, (2012), and Alsamydai et al., (2014), where other researchers'

main focus was on mobile banking services, but without adjustment of the technology acceptance model (TAM) in the acceptance of the use of the services. The technology acceptance model (TAM) has been adapted in the current study for the use of mobile banking services.

Chaipoopirutana, Combs, Chatchawanwan, and Vij (2009) and Lin (2010), claimed that there exists negative relationship between intention and adoption of mobile banking services. In this paper they have discussed the Roger's (1995) innovation diffusion theory model's attributes: relative advantage, complexity, compatibilityand trialability and concluded that Relative advantage, ease of use (opposite of complexity) and compatibility haveansignificant effect on awareness and attitude towards mobile banking services adoption. They have also suggested reducing thecomplication in order to elevate the number of users in mobile banking. They moreover laid stress on the fact that compatibility has a positive relation with the adoption of mobile banking. It was concluded that banks should start advertising their mobile banking services so that they can relate it to their beliefs, values and experiences of the adopters.Favorable attitude of consumers towards mobile banking adoption could only be possible if they possess strong conviction about the relative advantage of mobile banking. Relative advantage refers to the degree to which a technology provides superiority and attractiveness to customers over similar existing products(Rogers, 2003).

However, Mathieson (1991) argues that although widely validated, it is inadequate to rely only on these two dimensions i.e.perceived ease of use (PEOU) and perceived usefulness (PU) in investigating user's technology acceptance. Later studies given by Chung and Kwon (2009) demonstrate that the dimensions of PEOU and PU are positively related to behavioral intention for the adoption of mobile banking services.In the recent study given by Amit Shankar (2016) suggested to explore the various factors affecting the adoption of mobile banking services, some of the factors being financial cost, usefulness, credibility which influence consumer behavior regarding the adoption of mobile banking. He also suggested that security and privacy risks are a major concern of users of mobile banking users. Later study also suggested that banks should gain trust from their users.

The original T.A.M by Davis (1989) consists of two dimensions; perceived ease of use and perceived usefulness. perceived ease of use (PEOU) is defined as the degree to which a person believing that the use of a particular system would be free from both physical and mental effort while Perceived usefulness (PU) refers to the degree to which a person believing that the use of a particular system would enhance their job performance (Davis, 1989). However, Mathieson (1991) argue that although widely validate, it is inadequate to

rely only on these two dimensions of perceived ease of use (PEOU) and perceived usefulness (PU) in investigating users technology acceptance.

By observing the different dimension being used in literature, this study is extended the TAM which had perceived ease of use (PEOU), Perceived Usefulness (PU), Awareness and Attitude (ANA) and Behavior Intention to Use (BITU).

RESEARCH OBJECTIVE:

- To study the services of adopting mobile banking among the youths of Chandigarh.
- To identify factors influencing the usage and adoption of mobile banking among the youths of Chandigarh.

CONCEPTUAL MODEL:

The objective of study was to understand the relationship between perceived ease of use, perceived usefulness, attitude and awareness and behavioral intention to use mobile banking by the youth of Chandigarh. In order to explore this relationship behavioral intention to use was taken as dependent variable, perceived ease of use and perceived usefulness were taken as independent variables, awareness and attitude as mediating variable. Figure 1 outlines the conceptual model.
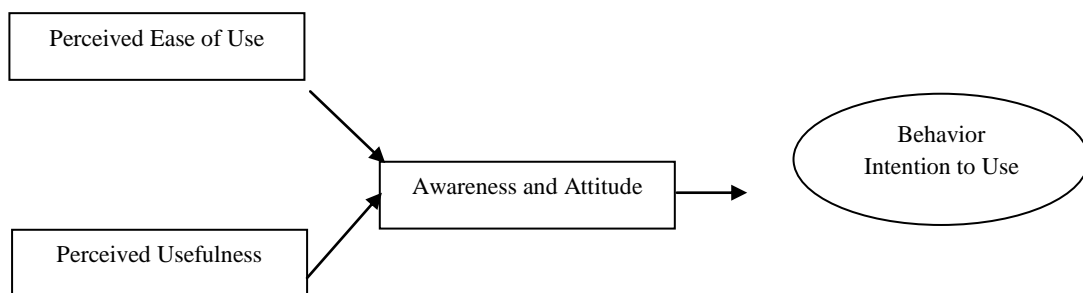

Figure 1: Conceptual Model

HYPOTHESES OF THE STUDY:

H1: Relationship between Perceived ease of Use and behavior intention to use is mediated by awareness and attitude.

H2: Relationship between Perceived usefulness and behavior intention to use is mediated by awareness and attitude.

RESEARCH METHODOLOGY:

Research Design

In order to achieve the objective of this study a quantitative research methodology was chosen. The proposed study was designed as causal study with statistical control research design to study the relationship between variables. The independent variables are perceived

ease of use and perceived usefulness of mobile banking, the dependent variable is behavioral intention to use and mediating variable is awareness and attitude.

Sources of data:

The data is being collected from both secondary and primary sources.

The secondary sources include data from various journals, books, reports of reliable standards, online sources with appropriate bibliographic standards, previous researches related to the topic etc.

Primary sources include youths of Chandigarh provided with pre validated and structured questionnaire. The reason for choosing Chandigarh city as it is the educational hub for the students of Punjab, Haryana and Himachal Pradesh and Panjab University is one of the pioneer institutions of Chandigarh.The university has 78 teaching departments including research departments and 15 centres for teaching and research along with 17 hostels, therefore can provide diverse set of inputs to the study.

Data Collection:

Random Sampling was applied to collect the data, out of which four departments of Panjab University, Chandigarh were selected. The data primarily comprises of students of age groups between 16-30 years pursuing graduation, post graduation and research. According to the Indian Government recently drafted proposal that youth are defined as those who aged between 16-30 years. Approximately 30 responses were gathered from each department. The standardized questionnaire of TAM model was used, consisting of two parts,

First part containing demographic information and Second part consists of structured questions related to technology adoption.

Sampling and Size of Sample:

The sampling method used in the study is Snowball Sampling. Data was collected from 136 respondents including both males and females out of which 114 respondents data were found to be useful, therefore a sample of 114 was taken in the study.

Psychometric properties of scale:

The internal consistency and reliability of the scale was measured using Cronbach Alpha. According to the Nunally, a Cronbach Alpha of 0.70 or higher is good but above 0.55 was acceptable (Nunally 1978). Cronbach Aplha for all the scales i.e Perceived Ease Of Use, Perceived usefulness, Attitude, Behavior Intention to Use were found to be – Perceived ease of Use - 0.891, Perceived Usefulness – 0.874, Attitude and Awareness – 0.852 and Behavior Intention To Use – 0.755

The Cronbach Alpha values for all the dimensions range from 0.755 to 0.891, exceeding the minimum alpha of 0.55. Thus the dimension measures are deemed reliable

Data Analysis tools:

Baron and Kenny model (1986), which tells the mediation effect and further correlation was used to the find relation between the variables under study.

BARON AND KENNY MODEL

In order to judge the **mediatingeffect in the present study, Baron and Kenny Model has been used**.This model describes the analysis which is required for testing various mediation hypothesis. It basically consists of four steps -

Step 1 – In Baron & Kenny's approach, the first step is to show that initial variable and outcome variable are correlated, thus it involves the creation of mediation effect.

Step 2 – In the second step, the correlation between the initial variable and mediating variable is being set up, thus the mediating variable act as an outcome variable.

Step 3 – In the third step, the correlation between the mediating variable and outcome variable is being set up and this correlation is caused due to initial variable. In simpler words, there is a need to control initial variable for controlling the correlation between mediating and outcome variable.

Step 4 – This is the last step in Baron and Kenny's procedure in which complete mediation between variables is being set up. This can be achieved if the correlation between initial and outcome variable, while controlling the mediating variable, is zero.

If all the four steps of Baron & Kenny's procedures are meet, then the data is reliable with the mediational hypothesis. If, however, only the first three steps of Baron & Kenny's procedures are satisfied, then partial mediation is observed in the data.

Now in this case, **Causingvariables** - Perceived ease of use and Perceived usefulness, **Outcome variable** - Behavioral intention to use and **mediating variable** - attitude and awareness.
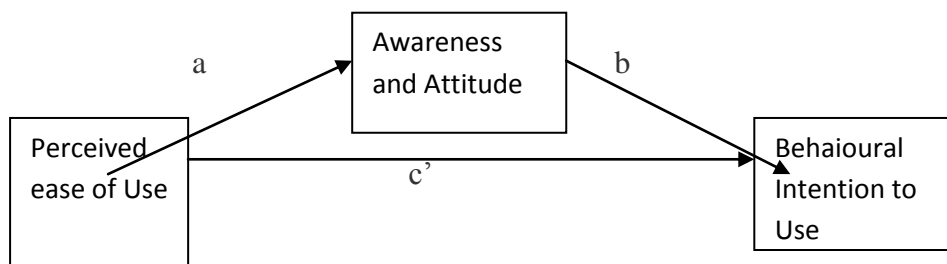
Step 1 – Perceived ease of use (predictor) is correlated with intention to buy (criterion variable) and mediation effect can be established in this case (path c'). Analysis of correlation

matrix indicate that perceived ease of use has a stronger positive relationship perceived usefulness (r=0.82).

Step 2 - Perceived ease of use (causal variable) is correlated with awareness and attitude(criterion variable). This step essentially involves treating the mediator as if it was an outcome variable. The result also indicate that there exists strong positive relationship between perceived ease of use and awareness and attitude (r= 0.68)

Step 3 – Awareness and attitude (predictor) is correlated with behavioral intention to buy (criterion variable). The result also indicate that there is strongest positive relationship between awareness & attitude and behavioral intention to use (r= 0.794)

Step 4 - To establish that Awareness and attitude completely mediates the relationship between perceived ease of use and intention to buy, the effect of path c' should be zero which is true in this case.

Similar results are obtained when relationship between **perceived usefulness** and **intention to buy** is being examined considering **awareness and attitude as mediating variable**.

The result also indicate that there exists stronger positive relationship between perceived usefulness and awareness and attitude (r= 0.675) , strong positive relationship between perceived usefulness and behavioral intention to use (r= 0.531).
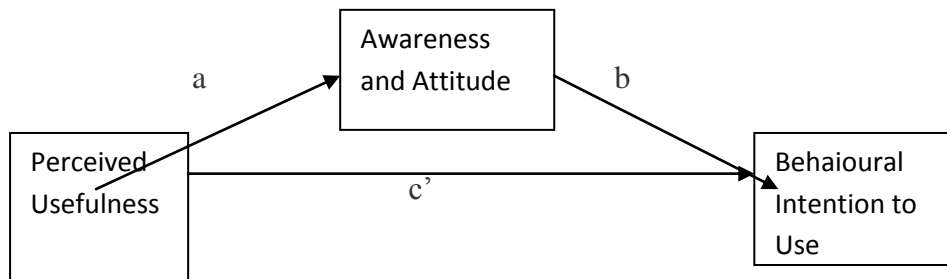
Since all the four steps discussed above are met, therefore it can be said that effect of perceived ease of use and perceived usefulness on behavioral intention to use is mediated by awareness and attitude.

According to the results, both the hypotheses H1 and H2 are accepted. The results of correlation are shown in table 1.

Correlations		PEOU	PU	ANA	BITU
PEOU	Pearson Correlation	1			
PU	Pearson Correlation	.82	1		
	Sig. (2-tailed)	.000			
ANA	Pearson Correlation	.68	.675	1	
	Sig. (2-tailed)	.000	.000		

	Pearson Correlation	.547	.531	.794	1
BITU	Sig. (2-tailed)	.000	.000	.000	

Table:1

Correlation is significant at the 0.01 level (2-tailed).

Because p <.01, reject the null of no relationship and conclude that the relationship is statistically significant.

DISCUSSIONS & FINDINGS

From the above results it is quite clear that perceived ease of use and perceived usefulness actually affects the attitude of youth that further motivates them to use mobile banking services at the fullest. Various factors today are continuously changing their perception towards mobile banking likeincreasing adoption of smartphones and initiatives such as media advertisements and education programmes for customers for using mobile banking services. Further BHIM app started by Prime Minister of India in which people are asked to teach at least 125 people about app and how to make transactions using itFor customers, mobile banking is convenient while banks too benefit through a low-cost channel. Prepaid mobile recharges, DTH recharges, ticket bookings (movies/travel) are among the fast growing transactions in mobile banking.

It is well recognized that for conducting financial transactions, mobile phones have got a great potential. But for inclusive growth, the benefits of mobile banking servicesmust reach to the common man even at the remote locations of the country. For this all the stakeholders like, telecom service providers, GOI, Regulators and mobile device manufactures need to get involved and help in the penetration of mobile banking servicesand include not onlybiggerbut also the middle towns and even rural areas.

According to the MasterCard Mobile Payments Readiness Index, India achieved a score of 31.5 out of 100, thustill now consumers in India have not yet fully adopted mobile payments.Only 14% of Indian consumers are familiar with both P2P and mobile banking services transactions, and 10% are familiar with POS transactions.

Therefore there is a need to generate awareness about the mobile banking so that more and more people use it for their benefit.

LIMITATIONS OF STUDY:

1. The study is restricted to Chandigarh only, hence restricting the scope of study.
2. The study covers only youth of Chandigarh studying in Panjab University.
3. There are other factors which influence behavior intention to use mobile banking services which have not been considered in the study.

CONCLUSION:

The objective of this study was to formulate and test empirically the model of how perceived ease of use, perceived usefulness has a relationship with behavioral intention to use having attitude and awareness as mediating variable with the help of TAM and Baron and Kenny Model.Although, mobile banking has a great future in Indiabut due to lack of awareness and resistance to change, a lot has to be done to make Indian people more tech-savy. Moreover, Indian governmentis continuously taking steps to build up policy and regulations for local banks to adapt technology in future.So the need of the hour is to change the perspective of the youth about mobile technology and familiarize them with its benefits to maximize its utility. The authors hope that this relation model will stimulate further research and provide a useful framework for the acceptance of mobile banking.

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