Physician's Behavioral Style Reshaping Mobile Banking Adoption

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Abstract

Mobile banking provides convenient access to the banking services and mobility to health care professionals. Still, it faces many challenges in limited adoption which makes the mass usage uncertain. Behavior or personal characteristics of the individual play a vital role in the adoption of mobile banking. This research extends the existing work by integrating the TAM model with the behavioral characteristics i.e., assertive, passive and aggressive to the attitude formation towards the mobile banking. Data was collected from 300 physicians and the research model was tested by using Partial Least

Squares multivariate technique. Assertive behaviors, perceived ease of use, perceived useful ness were the main predictors of attitude formation towards the behavioral intention to use mobile banking. Our study contributes to the growth of understanding the acceptance of the mobile banking in health care industry and will assist bank managers in implementing different strategy for different mobile banking users for delivering their financial services. Our study also provides direction for future research on mobile banking adoption by health care professionals in the light of their personal characteristics.

Keywords: **Technology acceptance model (TAM); Assertive; Aggressive; Passive**

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INTRODUCTION

Over time, definition of bank as an organization taking deposits, lending and helping customers in managing risk has been changed due to time pressure and competition in global banking which has created multifaceted group comprising of diverse products and services operating across various business lines. The supreme modernization in banking that has occurred due to the payment system which has taken momentum in the developed world and also well accepted in the budding market. The rapid penetration of mobile devices in the cashless society has significant effects on every day activities of people. Disruptive technology in context to mobile technology, provided dynamics in delivering health services which has changed the societal value and communication eco system. New horizons of life have been integrated to societal well beings. The possession of cell phone by users is more than PCs in India. The bankers are trying to take advantage of these devices for distributing their banking and financial services.

In the present banking scenario in India, mobile banking registration is increasing 50% more than the Internet banking as per the data revealed by different private and public sector banks in India. In comparisons to the internet transaction over mobile transactions if growth of mobile banking sustain over a period of time it will cross internet transaction. Banks are providing location based offers for customers for getting notification through their iWatch and are adding tag feature to introduce the concept of 'tap and pay' without customer having to reach for his wallet. Mobile banking is an approach for providing financial services through ICT. Mobile phones offer the advantage of using financial services 24/7 at any place. It creates a stronger relationship between banks and customers. Physicians are providing mobile health services to patients, so that their work may be better supported, and obtain useful information and guidance to manage their health services better.

Despite the potential benefits of mobile healthcare services, physicians have inevitably

encountered numerous difficulties and challenges in transacting their financial transaction through mobile devices. The omnipresence and multifunctional core of these devices along with their features allows mobile users to add different applications to their mobile devices and customize them based on preferences as well as use them to address their needs. Therefore, factors that influence the adoption of mobile banking services by physicians must be investigated. The objective of this study is to analyze the behavior style of physicians on the attitude towards the adoption of mobile banking. In the research we tried to integrate behavioral variables with TAM Model.

MOBILE BANKING IN INDIA

As research report, by 2018, 130 million markets will be created by Smart Wearable devices, and these will provide massive opportunities to cash on by the Banks in delivering their banking transactions. Banks in the future will be using smart watches and Google glass to create a niche market for mobile banking. Internationally mobile banking situation is favourable as evident from user adoption statistics across all different regions.

In Australia,5 million mobile banking customers in 2013 Banks reported that 60% of transactions were done using NFC contactless payments in 2013, In Europe, 38% of the European mobile consumers have adopted mobile banking Stable adoption rate 56% of the mobile banking users are from Turkey and 38% from the UK. In, Asia, China and India record the highest banking app users at 73% and 59% respectively 19% banking app users in Japan indicates relatively slow adoption of mobile banking. Chinese mobile transaction value was around US$360 billion.
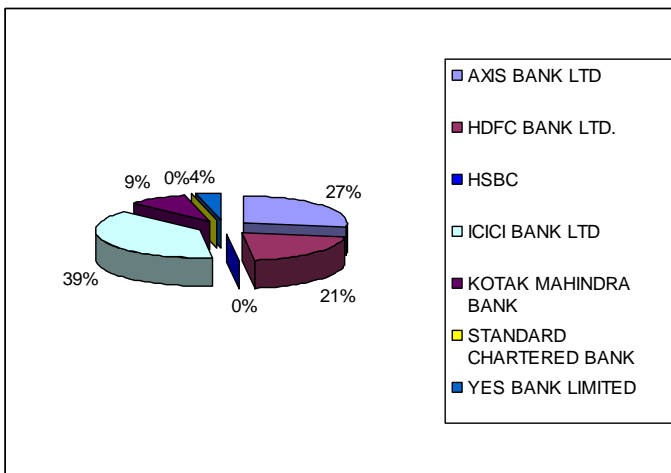

Figure 1: Top private sector bank wise mobile banking transactions for the month of October 2015 in India

Among private sector banks the leading top players are ICICI Bank Ltd, Axis Bank followed by HDFC Bank Ltd in mobile banking transaction in volume (actual to value in Rs.'000) (Figure 1,2) (Table 1,2).
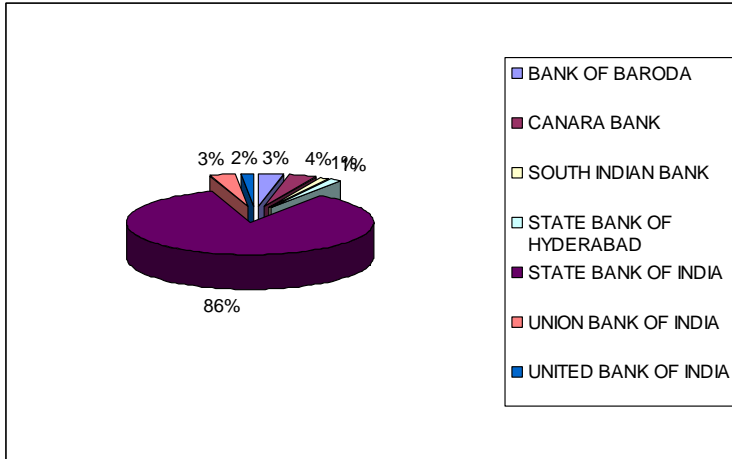

Figure 2: Public sector bank wise mobile banking transactions for the month of October 2015 in India

Table 1: Top private sector bank wise mobile banking transactions for the month of October 2015 in India

Bank Name	Volume (Actual)	Value(in Rs'000)
AXIS BANK LTD	4429296	55277546
HDFC BANK LTD.	3361701	77664825
HSBC	8846	350570
ICICI BANK LTD	6314628	85730160
KOTAK MAHINDRA BANK	1508124	20670932
STANDARD CHARTERED BANK	104	13160
YES BANK LIMITED	609960	3093137

Among public sector banks the leading top players are SBI, Canara Bank followed by Union Bank of India in mobile banking transaction in volume (actual to value in Rs.'000). In comparison to Sep-2015 the volume (actual to Value (in Rs.000) has been increased month wise which indicates there is trend towards conduction banking transaction through mobile month by month (Table 3,4).

Web transaction and mobile transaction seems to be comparable which can surpass the internet transactions in future ahead. The growth of the usage of mobile forces the banks to deliver their financial services though these devices with the changes of dynamism of customer expectation in conduction banking services.

Table 2: Public sector bank wise mobile banking transactions for the month of October 2015

Bank Name	Volume (Actual)	Value(in Rs'000)
BANK OF BARODA	443961	1784848
CANARA BANK	516101	3103862
SOUTH INDIAN BANK	153739	387558
STATE BANK OF HYDERABAD	195151	69977
STATE BANK OF INDIA	11872596	39998538
UNION BANK OF INDIA	466532	2947132
UNITED BANK OF INDIA	212889	242465

Table 3: Bank wise mobile banking transactions for the month of September 2015

Sr. No.	Bank	Volume (Actual)	Value(in Rs'000)
	Total	27105418	269602075.89
Total (Volume in million, Value in billion)		27.11	269.60

Table 4: Bank wise mobile banking transactions for the month of October 2015

Sr. No.	Bank	Volume (Actual)	Value (in Rs'000)
	Total	32484266	305677166.39
Total (Volume in million, Value in billion)		32.48	305.68

LITERATURE REVIEW

TAM (Technology Acceptance Model) traces its root from TRA (Theory of Reasoned Action) to psychology to information system (IS) and is widely used for studying the use and acceptance of technology. As specified by Davis [1] the TAM model PEOU a PU is the key variables for the determinant for the behavioral intention to use the technology as argued by the model and has strong control on attitude. The TAM model have been enriched by IDT (Innovation Diffusion Theory) by different researchers. Different research conducted in different countries in context to adoption of mobile banking applied Diffusion of Innovation (DOI) Model, Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM) model constructs. Lee and Mattila discussed the importance of perceived risk on adoption behavior and has found Jacoby and Kaplan's six risk dimensions applicable to adoption behavior in the Mobile banking context.

Behavioral intention is the main determinant of one's actual behaviour which is determined by attitude [2]. Legris critically examined the external variables and found they are the drivers of technology. Many researchers have explored the effect of external variables on technology usage as well as relationship between individual differences and acceptance of technology. Mattila found adopters of mobile banking relatively young and majority of them belong to 25-34 years and non-adopters display different socio-demographic characteristics. TAM uses perceived usefulness and perceived ease-ofuse as key determinants to explain users' acceptance of IT [3]. Adopters are willing to use mobile banking when they perceive it to be useful and helpful for the efficiency of their work. So PEOU, PU constructs have a direct effect on behavioral intention. Adams [4], Agarwal [5], Venkatesh [6] and Venkatesh [7] found a significant relationship between individual differences and technology acceptance. Lee found that innovative attributes are related to consumers' attitudes toward adoption. Mattila [8] pointed out availability of mobile services as an important factor in the adoption of mobile banking. Nor [9] found risk, trust, social norms, perceived usefulness, attitude, self-efficacy and perceived ease of use are the key determinants in adoption of Internet banking.

According to TRA, an individual's behavioral intention, which results in actual behavior, is influenced by his/her subject norm and attitude, and the attitude is influenced by individual beliefs [10]. However, despite the growing interest in the field of mobile banking, there has been limited empirical literature that explored the customers' attitudes and intentions toward mobile banking in context to the behavioral style with attitude formation. PEOU refers to the degree to which a person believes that using a particular system would be free of effort. Malhotra, Gefen and Matheison argued in their study PEOU is one of the main variables influencing other variables on adoption of technology Agarwal and Prasad [5], Davis [3] provided evidence of PEOU having a significant effect on behavioral intention for adoption of technology.

PU is defined as the degree to which a person believes that using a particular technology will enhance his performance. Araujo, Noteberg, Gefen, Matheison and

Malhotra considered PU as an important variable in TAM. Perceived Usefulness has been confirmed as an important variable that influences user technology acceptance and therefore has received a great deal of attention from prior researchers. Davis [11] defined perceived usefulness as the individual's perception that using the new technology will enhance or improve her/ his performance. Chau [12] in the study on understanding physician's usage of telemedicine adoption used the TAM model which explained the telemedicine adoption.

Perceived usefulness was found to be the most significant determinant of Behavioral intention to use and Attitude in the model. Mathwick defined perceived usefulness as the extent to which a person deems a particular system to boost his or her job performance. Agarwal [13], Davis [3], Venkatesh [14,15]. TAM suggests that attitude is based on the salient beliefs which a person has about the consequences of a given behavior and his or her evaluation of those consequences. Understanding the determinants of consumer's attitude, it is argued that this attitude has a strong, direct, and positive effect on customers.

Assertive behavior is usually honest, direct, expressive, spontaneous, and self-enhancing. Assertive persons make their own choices, are confident, and feel good about themselves while being assertive and afterward. They usually achieve their goals; when they don't, they still feel good about themselves because they know they have been straightforward. Assertive behaviors among the physicians uphold personal self-respect and cultivate health relationship with others.

Assertiveness describes having a positive attitude towards yourself, and others. It is about being honest, respecting yourself and with others. When you are self confident and your behavior is assertive, you are open to others and their views event though they may be different from your own. Your opinion, beliefs and feelings is important for you as well as for others. Assertive behaviour is all about, being honest, mutual equilibrium and benefit in a relation ship, getting more social responsibility, and showing respect to others.

Passive behavior: The person who behaves non-assertively in a situation does not assert his/her basic rights, instead he/she allows others to disobey upon them. Passive Behavior includes not expressing feelings, needs, and ideas; ignoring personal rights; and allowing others to disobey upon them.

Nonassertive behavior is usually emotionally dishonest, indirect, inhibited, and self-denying. Nonassertive persons often let other people choose for them and end up feeling disappointed in themselves and angry with them.

Aggressive behavior: The person who behaves aggressively in a situation asserts his/her basic rights at the expense of the other person's rights. He/she does not respect that other person has rights.

Negative attitude and passive behaviour

• Low self esteem and Lack of self confidence.
• Lack of self respect
• Negative feelings and thoughts about yourself
• Feelings of inferiority compared to others
• Like others to be in control of people and situations
• Demotivated

Negative attitude and aggressive behaviour

• Lack of self confidence and low self esteem
• Lack of respect towards others
• Put others down
• Feelings of superiority
• Don't listen to or ask questions

Positive attitude assertive behaviour

• Self confidence and high self esteem
• Respect for self and towards others
• Take responsibility for self
• Motivated to do a good job
• Interested in others' feelings and thoughts
• Ask questions
• Honest and direct
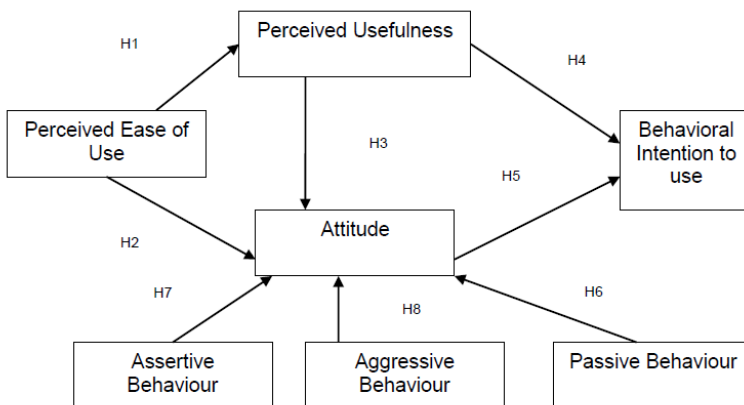• Listen to others

RESEARCH MODEL

Figure 3: Proposed research model

The research model depicted below is an effort to consist of external variables to effect the attitude formation. The model is specifically to answer the following research question (Figure 3):

How TAM does related factors and different behavioral styles impact the attitude.

H1: Physician's Perceived Ease of Use has a positive significant impact on perceived usefulness of mobile banking.

H2: Physician's Perceived Ease of Use has a positive significant impact on attitude towards using mobile banking.

H3: Physician's Perceived Usefulness has a positive significant impact on attitude towards using mobile banking.

H4: Physician's Perceived Usefulness has a positive impact on behavioral intention towards using mobile banking.

H5: Physician's Attitude towards using Mobile banking has a significant impact on behavioral intention to use it.

H6: Physician's Passive behavior has a significant impact on attitude towards mobile banking.

H7: Physician's Assertive behavior has a significant impact on attitude towards mobile banking.

H8: Physician's Aggressive has a significant impact on attitude towards mobile banking.

METHODOLOGY

Sampling and data collection

This study was conducted in three private medical colleges and one public hospital consisting of health care professional's i.e., physicians, nurses and para medical staff located in the capital of Odisha, India. The survey was confined to the physicians and the data was collected from them. Systematic random sampling was used and had given a response rate of 41% from the potential sample of 700. Practically around 92% of the population of physicians are having a practical exposure to the smart phones and are very well conversed with the devices. 85% are familiar with the social media tools i.e., whatsapp and facebook and using different apps for their online shopping and payment. Averagely 65% on an average are familiar with the personal computers, 45% of them use their email daily i.e., confined to the physicians working in the private hospitals. Physicians confined to private hospital in teaching are using daily their personal computers for email and other search engine for searching their medical information. 10% of the physicians use their social media for communicating with the patients through mobile. Physicians were asked to rate their knowledge of using electronic health care system or telemedicine system or online consulting on a scale of from 0 to 5, none to expert. Mean value of 1.28 is obtained indicating physicians are having poor knowledge or very less exposure to the online consulting or remote health care system. Physician in private hospital have more exposure to the electronic health system than the physicians working in public hospitals. Demographically, majority of the respondents were male (73%) and female (27%) with a mean age of 49 years. The

sampling frame was compared with other state in India which indicated representation of distribution of sex, age and specialization is well justified which indicates sample is a proper representation of the population.

Variables and measures

Five-point Likert scale from 1 = "Strongly Disagree" to 5 = "Strongly Agree" was used for measuring the items. Items used are adopted from sales validated by previous researchers in context to adoption of mobile banking in different countries, thus leading to the validation through content validity. TAM scale items were adopted from Davis [3], Chau [12] and Venkatesh [6]. Factor analysis using SPSS statistical software was used to test reliability and to test hypotheses. Cronbach's alpha values were used to test the reliability of the measurement scale adopted for the study. The reliability coefficients for all the predictors are above 7 [16]. Principal Component analysis was employed for the factor analysis. Factor loading of .5 are taken into consideration which are very significant in this study [16].

Result measurement model analysis

Hypotheses based on SEM were tested using PLS multivariate technique (partial least squares) approach. This evaluate both structural and measurement model. Smart PLS software with bootstrapping method was used to analyse the data. Average variance extracted was greater than .5. Structural model depict the causal relationship among the constructs, path coefficients and the R^2 value. Path coefficients and R^2 indicate how well the data support the hypothesized model. PLS (Partial Least Square is used to evaluate the model. It assesses reliability and validity by calculating the internal composite reliability (ICR) and the average variance extracted (AVE). ICR of 0.7 and above is taken into consideration and AVE greater than .50 is taken into consideration. In PLS model path coefficients represent standard beta values while R^2 represent the amount the variance explained. A correlation analysis was conducted on all variables to explore the relationship between the variables. The bivariate correlation procedure was subject to two tailed tests of statistical significance at two different levels highly significant ($p < 0.01$) and significant ($p < 0.05$). The result of correlation analysis for all the variables is shown in (Table 5) (Figure 4).
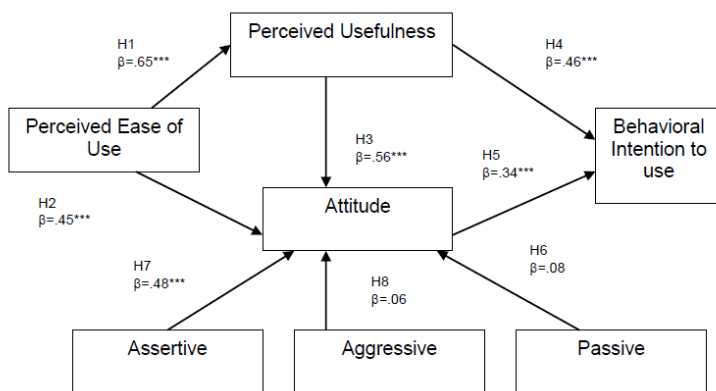
Figure 4: Research model results

Table 5: Correlation matrix

		ATT	PU	PEOU	Assertive	Passive	Aggressive
ATT	Pearson Correlation	1					
	Sig. (2-tailed)	.					
	N	300	300				
PU	Pearson Correlation	0.718**	1				
	Sig. (2-tailed)	0.000	.				
	N	300	300				
PEOU	Pearson Correlation	0.749**	0.897**	1			
	Sig. (2-tailed)	0.000	0.000	.			
	N	300	300	300			

Assertive	Pearson Correlation	0.186	0.076	0.227*	1		
	Sig. (2-tailed)	0.153	0.192	0.029	.		
	N	300	300	300	300		
Passive	Pearson Correlation	0.198**	0.243**	0.420**	0.356**	1	
	Sig. (2-tailed)	0.001	0.000	0.000	0.000	.	
	N	300	300	300	300	300	
Aggressive	Pearson Correlation	0.699**	0.754**	0.759**	0.130*	0.184**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.026	0.002	.
	N	300	300	300	300	300	300

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

• Correlation is significant at the 0.05 level (2-tailed).

It examines the correlations among perceived usefulness, perceived ease of use, Attitude, Behavioral Intention to Use, Assertive, Aggressive and Passive.

Hypothesis -1 (Perceived Ease of Use (PEOU) → Perceived Usefulness (PU))

PEOU is found to be statistically significant with PU where $\beta = 0.65$, $p < 0.001$, $R^2 = 0.34$. This suggests that Physicians, perceive mobile banking is easy to use will prove to be useful for them. The findings suggested that, sample of Physicians who have perceived in easy in using mobile banking perceive usefulness of mobile banking for conducting their banking transaction or payment.

Hypothesis -2 (Perceived Ease of Use (PEOU) → Attitude (ATT))

PEOU is found to be statistically significant with ATT where $\beta = 0.45$, $p < 0.001$, $R^2 = 0.48$. This suggests Physicians attitude is significantly affected by the perceived ease of use of mobile banking. Another implication of this as physicians is familiar with the smart phone devices which also forms a positive attitude towards mobile banking.

Hypothesis -3 (Perceived Usefulness (PU) → Attitude (ATT))

PU is found to be statistically significant with ATT, where $\beta = 0.56$, $p < 0.001$, $R^2 = 0.35$.

Physicians derived their usefulness from mobile banking usage which is forming a positive attitude towards it.

Hypothesis -4 (Perceived Usefulness (PU) →Behavioral Intention to Use (BIU))

PU is found to be statistically significant with BIU, where $\beta = 0.46$, $p < 0.001$, $R2 = 0.65$. Usefulness of mobile banking is leading to the intention of using mobile banking in future. It can be viewed as more the usefulness of the users more will be the intention of using mobile banking.

Hypothesis -5 (Attitude (ATT) →Behavioral Intention to Use (BIU))

ATT significantly impact on the behavioral intention to use where $\beta = 0.34$, $p < 0.001$, $R2 = 0.45$. Physicians maintain a positive attitude towards mobile banking usage and also satisfied with ease of use and usefulness they derive from the mobile banking.

Hypothesis -6 (Passive Behaviour→ Attitude (ATT))

Passive behaviour characteristics of physicians are not having a positive attitude towards use of mobile banking and this is not statistically significant as per the analysis results. Passive behaviour is not significant on attitude where $\beta = 0.08$, $p > 0.001$, $R2 = 0.55$. Aggressive behavior people having low self esteem, lack of self confidence, lack of self respect and negative feelings and thoughts are having a negative attitude formation towards mobile using mobile banking.

Hypothesis -7 (Assertive Behaviour →Attitude (ATT))

Assertive behaviour characteristics of physicians are having a positive attitude towards use of mobile banking and this is statistically significant as per the analysis results. Assertive behaviour is significant on attitude where $\beta = 0.48$, $p < 0.001$, $R2 = 0.65$. Aggressive behavior people having high self esteem, high self confidence, have high self respect and positive feelings and thoughts are having a positive attitude formation towards mobile using.

Hypothesis -8 (Aggressive Behaviour →Attitude (ATT))

Aggressive behaviour characteristics of physicians are having a negative attitude towards use of mobile banking and this is statistically not significant as per the analysis results. Passive behaviour is not significant on attitude where $\beta = 0.06$, $p > 0.001$, $R2 = $

0.15. Aggressive behavior people having lack of self confidence, lack of self respect and negative feelings and thoughts are having a negative attitude formation towards mobile using mobile banking.

DISCUSSION AND MANAGERIAL IMPLICATIONS

Banking will be using predictive behaviour model in minimizing the risk of delivering their financial services. The research contributes to the existing literature on mobile banking adoption among customers with special focus on physician's adoption. TAM model has power in explaining the technology acceptance by users. In one eye theoretical knowledge is enriched with practical contribution to the filed of banking as well as health sector. It has tried to find out the factors in particular to behavior of customers. It has found how the behavioral characteristics are affecting the attitude which in turn influences behavioral intention to use mobile banking.

As per the study, behavioral characteristics play a vital role for attitude formation. PU and PEOU, ATT are the main predictors of technology acceptance. The hypothetical model was constructed and validated to predict factors which affect mobile banking adoption among physicians. The Partial Least Squares Path Modeling a variation of Structural Equation Modeling (SEM) was employed to validate both measurement and structural model. Furthermore, results displays that perceived usefulness, perceived ease of use, attitude, and assertive behavior of physicians are the main predictor for the adoption of mobile banking.

From the banker's point of view, bank should promote positive attitude towards mobile banking among customers. Mobile banking adoption is driven by attitude and personality style of physicians. As attitude is built among physicians then they become an effective customer for mobile banking. Assertive behavior of physicians has the skills to state their opinion, try to influence others while the aggressive behavior physicians will force their opinion on others for the usage of mobile banking. Assertive people have a better chance of gaining the respect of those around them as they are able to stand up for themselves while considering the needs and views of others. Aggressive people can be unapproachable, show they don't have positive attitude towards the mobile banking. This significant relationship suggests that physicians who perceive mobile banking as a useful channel for doing banking activities more likely prefer to use it.

Physicians using mobile banking save time by using the service effectively and efficiently. Physicians prefers mobile banking because they are charged less for performing banking transaction compared to in branch services. Additionally, customers might use mobile banking to have greater control over their financial activities from anywhere at any time without going to bank branches and standing in queue. Aggressive people may show irritated manner at others while assertive people appear relaxed in stressful situation which shows a positive attitude for adoption of mobile

banking. They have a negative attitude and forget to carry out tasks. Assertive is the healthiest and most effective style of communication, and have the confidence to communicate without restoring manipulations. Different mobile banking strategy for segment strategy. Positive assertiveness among the physicians indicate their leadership ability, reduce conflict, Increase the quality of the relationships both at work and in their personal life, and to get more of what they want in life. This indicates a positive attitude towards adoption of mobile banking. They are good communicators to know their needs and expectations by communicating them clearly. Customer expectations, technological innovations; effect of regulation with attitude formation towards the technology acceptance plays a vital role for the adoption of mobile banking. Significant influences of ease of use on mobile banking suggest bankers that physicians will use if they feel comfortable to operate and for them it will be easy to use. User friendly interface, easy instruction to follow will promote the physicians in adoption of mobile banking.

Bankers should focus more on this aspect while designing the channel for distribution of financial services. More and more physicians are inclined for use of mobile devices rather than for internet banking due to the small devices they carry with it. From this study bank should consider the behavioral characteristics of customers in different group segment while designing their strategy for distribution of financial services. In the study assertive behavior among physicians' is much more prevalent still then many physicians even familiar with smart devices don't adopt mobile banking where the behavioral style of physicians play a important role in the attitude towards adoption of mobile banking.

CONCLUSION

This study represented as distinctive research in the adoption of mobile banking that integrated the behavioural style factors with TAM model. The findings discovered the assertive behaviour of physician's forma positive attitude towards adoption of mobile banking. Aggressive and passive behaviour forms negative formation towards the behavioural intention to use mobile banking. Perceived usefulness, perceived ease of use, assertive factors is significant in affecting physician's attitude which leads to the behavioral intention to use mobile banking. Study also found attitude plays vital role in the intention to use mobile banking or with the continued use of mobile banking in future. Further study can be enhanced by taking into the consideration of culture factor with the personality behavior style of physician's in formation of attitude towards the adoption of mobile banking. The study was an attempt to attract a particular segment of the society which is highly educated and occupying a noble possession to pass message to society to create cash less society where patient, doctor and other stakeholders in the health sector transact each other in financial issues as well as other banking transaction.

REFERENCES

1. Davis FD (1989) Perceived usefulness, perceived ease of use, and user acceptance

of information technology. MIS Quarterly 13: 319-340.

2. Yang KC (2005) Exploring factors affecting the adoption of mobile commerce in Singapore. TelemInform 22: 257-277.

3. Davis FD, Bagozzi RP, Warshaw PR (1989) User acceptance of computer technology: A comparison of two theoretical models. Management Science 35: 982-1003.

4. Adams DA, Nelson RR, Todd PA (1992) Perceived usefulness, ease of use, and usage of information technology: A replication. MIS Quarterly 16: 227-247.

5. Agarwal R, Prasad J (1999) Are individual differences Germane to the acceptance of new information technologies? Decision Sciences 30: 361-391.

6. Venkatesh V (2000) Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. Information System Research 11: 342-365.

7. Venkatesh V, Morris MG, Davis GB, Davis FD (2003) User acceptance of information technology: toward a unified view. MIS 27: 425-478.

8. Mattila M (2003) Factors affecting the adoption of mobile banking services. Journal of Internet Banking and Commerce 8: 24-36.

9. Nor KM, Pearson JM (2008)An exploratory study into the adoption of internet bankingin a developing country: Malaysia. Journal of Internet Commerce 7: 29-73.

10. Ajzen I, Fishbein M (1980) Understanding attitudes and predicting social behavior. Englewood Cliffs, Prentice-Hall.

11. Davis FD, Bagozzi RP, Warshaw PR (1992) Extrinsic and intrinsic motivation to use computers in the workplace. Journal of Applied Social Psychology 22: 1111-1132.

12. Chau PYK, Hu PJ (2001) Information Technology Acceptance by Professionals: A Model Comparison Approach. Decision Sciences 32: 699-719.

13. Agarwal R, Prasad J (1998) A conceptual and operational definition of personal innovativeness in the domain of IT. Information Systems Research 9:204-215.

14. Venkatesh V, Davis FD (1996) A model of the antecedents of perceived ease of use: Development and test. Decision Sciences 27: 451-481.

15. Venkatesh V, Davis FD (2000)A theoretical extension of the technology acceptance model: F our longitudinal field studies. Manage Sci 46: 186-204.

16. Hair J, Anderson J, Norman J, Black W (1995) Multivariate Data Analysis with Readings 4th (edn.). Prentice-Hall, New Jersey.