An Analysis of Mobile Banking Acceptance by Pakistani Customers

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Abstract

This study explores the factors affecting and manipulating the mobile banking acceptance by Pakistani customers. The expansion of technology has generated new opportunities in the world as the expansion of mobile technology has merged the financial and telecom service providers to pioneer new innovations for financial institutions in order to provide branchless banking through mobile banking. This research acquires a TAM (Technology Acceptance Model). Outcomes of this study sustains extensive TAM in forecasting bank customer's behavioural intent to use mobile banking. The data was collected from the MCB bank account holders in Pakistan which includes 200 survey responses, analyze through statistical techniques: regression analysis. The result of data analysis demonstrated the context of the following variables such as speed, self-efficacy (SE), Mobilty Access(MA) , Advertising(AT) and quality of service , user perception relates to the convenience of mobile banking that affect the tendency to use and adoption.
Keywords: Mobile Banking, Innovation, TAM.
JEL Codes: C54, D12, Y1

Introduction:

The integration of information technology (IT) in the global banking industry has brought an overall tremendous changes in the banking sector. Banks are in a close competition, and they try to attract more customers by facilitating more conveniences to capture more market share. Geo.tv, (2008) These new trends, with the emergence of new technologies are changing the industry and creating many new and exciting opportunities.

The mobile industry is growing sharply and its users are increasing day by day. The basic reason is availability of low-cost mobile phone services. Secondly, the related services are integrated with the banks and mobile service providers are charging very low rates and in some case without any charges. It is the medium where you access your account. The definition of mobile banking is like a Transaction passed out via a mobile. Mobile banking gives facilities to the bank customers to verify own account statements, credit card details and provide information related to account operations through SMS alerts like any deposit and withdrawal of the amount made by the customers.

The telecom industry in Pakistan has grown mutifold and meet the international levels of securities. It has started as a luxury and status symbol for the elite class, now it is suitably affordable for a common man.

The banking system of Pakistan is updated and following the international banking standards, it has been observed that there is no more rush in branches, long queues for check deposits, cash withdrawal and payment of utility bills. Through information technology integration the system is time saving, effective, efficient and error free. Time is a very important factor for business growth as it happens through technology integration in banking. In recent years, Banking is linked with different medium of communictations, i.e. mobile and internet. . Mobile and internet medium is economical and easy to use and that is the reason many banks offer the Mobile banking and the internet banking facility to their customers. With the dire need to develop the understanding of mobile banking acceptance for the customers and to influence the factors affecting the transactions. Therefore , this study is based on TAM model which shows how users move to accept and accquire a technology. TAM is an adoption of the TRA Theory of Reasoned Action which was designed by Ajzen and Fishbein's (TRA, 1975) in the literature.

 TAM selected in this study for two major basis, initially, TA is based on its analytical control that makes it trouble-free to use in diverse information structure devices (Luarn and Lin 2004), secondly, TA facilitate to enhance the value of the association among five significant constructs of the study remarkably, PU (perceived usefulness), PEOU (perceived ease of use), The three sub variables, Which are Speed (SP), Mobility

Access (MA), Advertising (AD), combined to represent the independent variables of customer service (CS), Compatibility (COMP), Self-Efficasy (SE),

(Davis, 1989) TAM propound that (PU) and (PEOU) are basic construct in perceptive person's intention to take on Information System (IS). However, depending on the TAM extended context, the additional variables are (CS: sub variables, SP, MA, AD,), (COMP),

(SE), boost the knowledge to create better familiarity of customer in relate to the acceptance e of mobile banking in broad further than TAM.

The endeavor of this study will create significant value to the banking sector of Pakistan. This study is concern with the modern services provided by the banking sector to motivate human attention and adoption,

It is hoped that this study would give a clear direction about the acceptance of mobile banking service in Pakistan. Based on the features initiated to persuade user choice for mobile banking, the study helps in understanding the true nature of the situation to identify the factors which affects customer's satisfaction through the emerging technology and, thus allow strategizing how to attract the potential users of mobile banking.

In 21st century, there has been a rapid expansion in the telecom sector in Pakistan. **B**efore 1990s, there has been a steady growth in this sector as it was used only by the upper class or by the elite class. While after mid-1990s, the product beame cheaper and accessible to almost all the segment of the society. Pakistan has numerous mobile users i.e. 120 million (2013) as compare to only 26 Million Bank Account holders, Pakistan has lots of opportunities for the consumers to bring them in the bracket of Mobile Banking.

An Overview of Mobile Banking:

During 1999, the first mobile banking transaction took place. The inventor was a company (pay box solutions AG) called Pay box funded by Deutsche bank. The other early initiator was a Spanish firm called Mobi Pago; later the name was changed to Mobi Pay while broadening the market through bringing other banks into the facilities and mobile Operators in Spain. The product was introduced in the market in 2003 and many vendors were acquired to accept the special USSD payment confirmation. Because of the difficulties between the stakeholders involved in the system, the product faced problems and was not able to fulfill its promises.

In the banking industry, Mobile banking became a new innovation after the   initiation of online banking. Internet banking has created and prove itself in opposition to branch banking, as online payment of utility bills, credit card payments, transfer of donations and so on so forth, just in no time from your residence or workplace. But the prerequisite for Internet Banking, is the availability of internet connection as well as PC.

Review of Literature:

.   At this junture M-Banking has a blistering topic in the banking sector, because rapid changes of technology to increase more competency. In this part of study the related literature on the research which helps in identifying the variables associated with the problem mentioned earlier in the study.

Mohd Zulkifli, (2007) investigates about reasons to establish person's objective to utilize mobile banking. He adopted a technology acceptance   model in this study and selected variables based on this TA model which is perceived credibility; perceived SE and normative stress are added on the way to improve the considerate of consumer reception of mobile banking. Main aim of this research is to obtain the reasons to persuade the acceptance of mobile banking among bank consumers within Malaysia. This study will enhance the exisiting knowledge on technology reception within mobile banking. The study provides the desirable outcomes to familiarize the consumers with the upcoming technology. With the accquaintance of technology, appropriate policies are to be formulated to attract more consumers. However, the author explores that the variable "esteem to normative" is insignificant but it cannot be discarded. because the normative force contains in an encouraging result on the BI to use mobile banking. The conclusion of this research is that statistically significant positive association between perceived S-E and BI to utilize internet banking. Purpose to utilize mobile banking was subjective by the degree of safety and solitude connected in the background of mobile banking.

Mattila, (2004), defines the factors influencing mobile banking and also described consumer behavior patterns on the basis of TA model. Research based on the consumer's adaptability of new innovation had focused on social and psychological attributes of adopters. The complexity concern in when performing financial transaction via mobile is mostly apposite relation between consumer's experience and technology. This proficiency can be determined through information enhance from a related product. This capability may boost through information added as of the linked products. Added information about mobile banking service from the bank's personnel through personnel selling activities and marketing communication activities. In the mobile banking service the most important factors were influenced based on every target section which is trustworthiness and security.

Tommi Laukkanen, (2004) shows the validation on the basis of the TA model for mobile banking resistance. The findings of this study has many obstacles which influence the mobile banking employing

confirmatory factor analysis to analyze the accuracy of the model.

Mobile banking may be useful for senior or hindered individuals to utilize, as they are not capable to drive and walk long space to locate banks or ATM machine, such as, lining in the face of an ATM to verify bank account balance. The crucial benefit of this service goes to the bank interms of cost minimization. Moreover, it also provides wide variety of opportunities for the consumers in the shape of efficient and effective quality services. This service has bring miracles to the general public. As they can easity pay their utility bills, can recharge their cell phones and rapid transfer of payment.

There are 24 commercial banks and approximately 26 million bank accounts in Pakistan.. The mobile banking service was introduced here by the following banks:United Bank Limited, Habib Metropolitan Bank and MCB Bank.

Methodology:

The procedural approach of this study is explanatory, we try to recognize and clarify variables that are present in a specified condition to explain the association that exists between these variables to give an image of a specific knowledge.

In this study, the authors tried to classify the causes of the acceptance of mobile banking. With the help of research instrument (questionnaire) and then analyze the collected data and finally concluded the numeric outcomes (result) from analysis of the data. This study has adopted both approaches i.e. qualitative and quantitative.

Data Source:

An ease sample is a sample of study subjects taken from a cluster which is suitably available to an investigator. The benefit of an easement sample is that it is effortless to access, with the slight attempt on the part of the investigator. A survey questionnaire was distributed through a random sample of 200 Account holder of MCB bank Ltd to get their comments on its readability, accuracy, and comprehensiveness. Data is collected through individually–administered survey questionnaires as of diverse resources for example banks and different areas of fields. The data was compiled and analysed by employing Regression analysis in the SPSS Software.

Construction of Variables:
Dependent variables:
PU, PEOU, INT
Independent Variables:
Estimated PU, Estimated PEOU, SP, MA and AD.
   1)   **CS:**
The CS is used to classify the feature of the service offered by banks and mobile service givers, to convince consumer's needs and demands. CS consist three associate variables: speed (SP), mobility access (MA) and advertising (AD).
   i)   **SP:**
Service of higher SP is providing momentous for customers using any emerging technology application. Laukkanen, (2007), in a previous study. Time saving was familiar with self-service technology. Checking Balance is an effortless process for mobile banking such as"; "doing banking with mobile banking costs more minutes than phone banking".
   ii)   **MA:**
 In mobile banking (MA) is an additional basic element . Laukkanen (2007) found that base (MA) checking bank account balance right away anywhere at any time through mobile banking service.
   iii)   **AD:**
The ad is a form of communication medium, bank focused on the advertising of mobile banking for knowledge of customers, with the help of advertising to attract more customers of mobile banking.
   2)   **SE:**
Campeau and Higgins, (1995) classified Perceived SE is the ability to individualize; s judgement of performing any service SE may well consist of the knowledge, and expertise sought-after to employ the new IT.
   3)   **COMP:**
Rogers, (1995) described in prior studies, the Persons are agreeing to an innovation while they find it well-matched with their past beliefs, experience and the manner they are familiar to job Agarwal & Prasad, (1998).
   4)   **PU:**
The extent to which an individual considers that using a specific system would enhance his work performance. PU is a significant precursor to objective to take on and utilize a technology.

5) PEOU:

The extent to which an individual considers that using a specific system possible liberated from the effort. A structure which is convenient to utilize will make possible more system use chore success that systems that are not easy to utilize.

Figure 1: Research Model
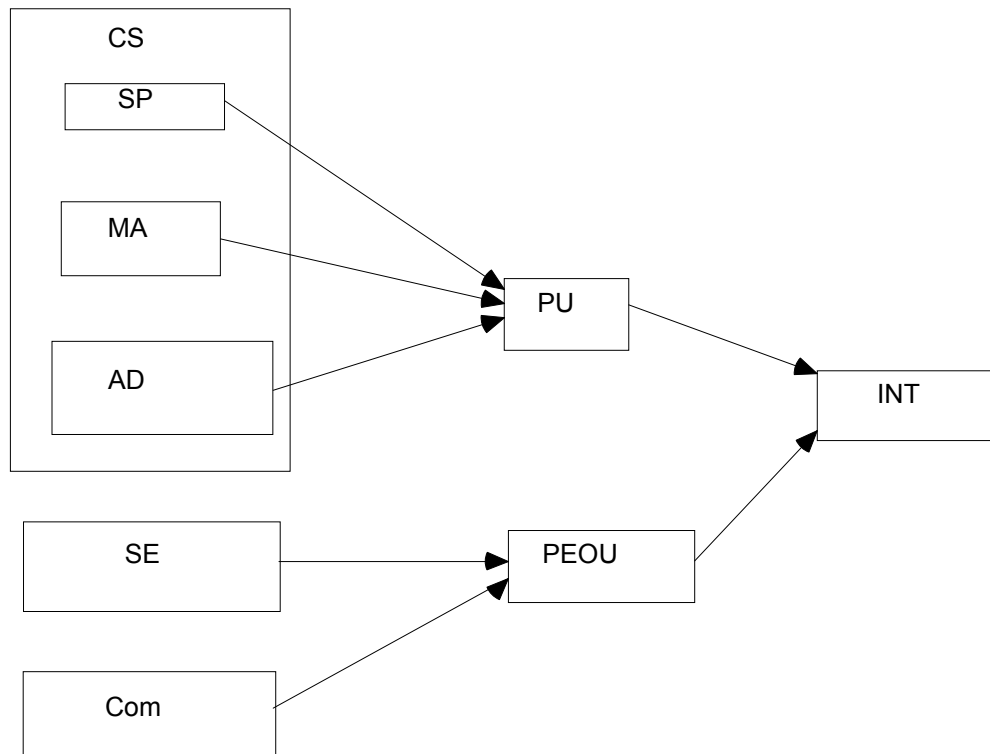
Source: summarized and tabulated by the Authors

Empirical Approaches:

The Empirical Approaches of this study defined below:

Demographic statistics:

Demographic statistics based on Age, Qualification, Occupation, Monthly Income & Marital Status.

Table 1:

Demographics Table

Variables		Mobile Banking Users	
		Frequency	**Percentage**
Age	25-35	51	25.50%
	36-45	80	40%
	46-55	39	19.50%
	Above 55	30	15%
Qualification	Graduate	82	41%
	Post Graduate	118	59%
Occupation	Businessman	107	53.50%
	Government Employee	61	30.50%
	Private Employee	32	16%
Monthly Income	20,001-40,000	42	21%
	40,001-60,000	92	46%
	60,001-80,000	49	24.50%
	Above-80, 000	17	8.50%
Marital Status	Single	52	26%
	Married	148	74%

Source: tabulated by the Authors

Table 1:

There are 51 (25.5%) respondents belong the age between 25 to 35 years out of total respondents, 80 (40%) respondents belong the age between 36 to 45 years, 39 (19.5%) respondents belong the age between 46 to 55 years and 30 (15%) respondents belongs to age above 55. In Table 1, 82 (41%) respondents are Graduating, and 118 (59%) respondents have a Post Graduate degree. There are 42 (21%) respondent's income between Rs. Twenty thousands one to Rs. Forty thousands, 92 (46 %) respondent's income between Rs Forty thousands one of Rs Sixty thousands, 49 (24.5%) respondent's income between Rs Sixty thousands one of Rs Eighty thousands and 17 (8.5%) respondent's income greater than Rs Eighty thousands. There are 52 (26%) respondents are single and 148 (74%) respondents are married out of total respondents.

Validity & Reliability:

Validity and Reliability are supposed to be the pivotal tools of each measurement process. "Reliability refers to the confidence we can place on the measuring instruments to give as the same numeric value when the measurement is repeated on the same object. Validity, on the other hand means that our measuring instrument actually measures the property it supposed to measure."

Internal Consistency:

Table 2

Reliability Statistics	
Cronbach's Alpha	**No of Items**
0.918	5

Source: summarized and tabulated by the Authors

Table No. 2:

Cranbach's Alpha is mathematically equal to the average of all probable approximate associations that can't be really estimating in that way. The reliability statistics table shows the Cronbach's Alpha (α) value is 0.918 which means that 91% correlation within the instruments.

We check the validity of the instrument using Face validity test. The test established whether the measuring device looks like it is measuring the correct characteristics. The face validity test is done by showing the instruments to experts and actual subjects and analyzing their responses quantitatively.

Multiple Regression Analysis

Multiple regression generally clarifies the association among numerous independent or numerous forecaster variables and one dependent or principle variable. In multiple regression, a dependent variable is modeled as a rationale of numerous independent variables with parallel numerous regression coefficients, beside with the constant term.

A stepwise multiple linear regression test was conducted in SPSS to test the capability of research model (figure 1).

Step 1:

Dependent variable: PU

Independent Variable: SP, MA, AD.

Table 3: Results of multiple regression analysis for step 1

Variables	Unstandardized Regression Coefficient	P-value (significance)
Constant	-1.72	0.000
Speed	1.15	0.000
MA	0.17	0.000
AT	0.21	0.000

Source: Summarized and Calculated by Authors

Note: * = 1% Sig. L., ** = 5% Sig. L. And *** = 10% Sig. L. $R^2 = 0.936$

Table no 3:

Displays the values of the coefficient regression for three independent variable (SP, MA and AT) are 1.15,0.17 and 0.21 respectively. The Sig. L.s is 0.000 that remain same in all the variables which are less than 0.05.It shows significant multiple linear relationship between the independent and dependent variables. 93.6% of the variance in EPU is explained by the three variables (SP, MA and AT). That clears in the equation the maximum change in PU is due to SP

The resulting equation is

Estimated PU= -1.72 +1.15* (Speed) + 0.17* (MA) + 0.21* (AT) with R2= 0.936

Step 2:

Dependent Variable: PEOU.

Independent Variable: COM and SE.

Table 4: Results of multiple regression analysis for step 2

Variables	Unstandardized Regression Coefficient	P-value (significance)
(Constant)	1.87	0.000
SE	1.05	0.000
COMP	-0.31	0.000

Source: Summarized and Calculated by Authors Note: * = 1% Sig. L., ** = 5% Sig. L. And *** = 10% Sig. L.$R^2 = 0.518$

Table no 4:

Displays the values of the regression coefficient for two independent variables (SE, COMP) are 1.05, and -0.31 respectively. The Sig. L.s is 0.000, as remain same in all the variables which is < 0.01 and 0.05. Which depicts significant relationship among the variables here COMP is negatively significant with EPEOU which means that increase in EPEOU is observed due to SE while it can also be increased a little by decreasing of COMP. 51.8% of the variance in EPEOU is explained by the three variables (SE and COMP). The resulting equation is

Estimated PEOU= 1.87 + 1.05* (SE) – 0.31* (COMP) with $R^2 = 0.518$

Step 3:

Dependent variable: Intention to Use

Independent Variables: Estimated PU, estimated PEOU

Table 4: Results of multiple regression analysis for step 3

Variables	Unstandardized Regression Coefficient	P-value (significance)
(Constant)	1.38	0.000
Estimated PU	1.47	0.000
Estimated PEOU	-1.06	0.000

Source: Summarized and Calculated by Authors

Note: * = 1% Sig. L., ** = 5% Sig. L. And *** = 10% Sig. L. $R^2 = 0.584$

Table no 3:

Displays The values of the regression coefficient for two independent variables (EPUandEPOU) are 1.47, and -1.06 respectively. Their sigh. L.s are 0.000, as remain same in all the variables < 0.01 and 0.05. Which depicts significant relationship among the variables here EPOU is negatively significant with PEOU which means that   increase in INT is observed due to EPU while it can also be increased a little by decreasing of EPOU. 58.4% of the variance in INT is explained by the three variables (EPU and EPOU). The resulting equation is

Estimated Intention = 1.38 + 1.47* (Estimated PU) – 1.06* (Estimated PEOU)

Conclusion

The findings of the study highlights the factors which influence the mobile banking reception. The authors also investigate the mobile banking reception via Pakistani customers was examined by using data from the survey. For this purpose, we have designed a Questionnaire, and filled from the respondent of bank account holders of MCB Bank Ltd, of Karachi city.

It has been explored that more consumers have been attractive towards this service. As it provides hi-tech technology, speedy financial services and ultimately generate more earnings to the banks.

This study employs TAM and extended TAM to study the research queries and attain the objectives in the case of Pakistan. The outcomes of the study illustrates that there is a significant and positive relationship between the variables SP, SE,, EPU and INT, except COMP and EPOU which are insignificant. These findings suggest that in order to provide customer satisfaction and encourage the use of mobile banking services which in turn boost the banking sector. It has been proposed that for more information through AD and SE may improve the consumers' capacity, knowledge and experience regarding mobile banking services.

Recommendations and Futuristic Approach

The outcome of this study possibly suggest some policy options to mobile service companies and banks. Moreover, it has been proposed that the   mobile and banking industry should have to merge for facilitating the mutual benefits under one roof by creating the customer's belief of usefulness, ease of use and time saving factor consideration for increase the adaptability of mobile banking services.

Existence of Internet facility promoted the banking sector to carry out their businesses through the mobile devices, Smart phones. These are the main encouraging methods to make "stickiness" among existing consumers. Due to their capacity to provide services wherever,whenever and anytime, their high speed of access to make them a direct force in the world of e-banking.

Banks may focus on the innovative features in the mobile banking services, and design the policies to attract and retain the customers to gain benefits, It is suggested that the Banks may introduce mobile banking facilities to every customer, connectivity with other banks account for transactions etc. This TAM Model may accommodate other related variables as well with the passage of time and requirements. It is suggested that the sample size may be extended to obtain more reliable data which may be useful to find new ideas and concepts.

This study finds that COMP and PEOU are insignificant for the utilization of mobile banking in Pakistan, though, previous research support perceived ease of use which is based on TAM Davis (1989) and COMP .Both factors are more persuading consumer behavior. It has been found that this research is not sufficient to cater all challenges and aspects of mobile banking so far. It is therefore suggested to take more aspects and variables on board to evaluate and get the reliable outcome relating to the mobile banking which is going to be a hot and debatable issue in the banking sector. Further this study may be used as a base line to validate, approved and develop the model.

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Abbreviation and Acronym:
- COMP: Compatibility
- CS: Customer Service
- IT: Information Technology
- MA: Mobility Access
- AT: Advertising
- MCB: Muslim Commercial Bank(Private Commercial Bank In Pakistan)
- PEOU: Estimated Perceived Ease Of Use
- PU: Estimated Perceived Usefulness
- SE: Self-Efficacy
- Sig. L: Significance Level
- SP: Speed
- TAM: Technology Acceptance Model
- TRA: Theory Of Reasoned Action
- ATM   Automated Teller Machine

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