

A Study to Examine the Factors Influencing M-Banking Adoption in India

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Abstract

Purpose: The purpose of the study was to examine the factors influencing the adoption of m-banking in India. For this study, four factors, namely, Perceived Usefulness, Perceived Ease of Use, Habit and Trust were used to determine the consumer perception of m-banking adoption in India.

Methodology/Approach: An online survey was conducted to collect data from 113 consumers using m-banking in India. IBM SPSS was used to test the conceptual model and to validate and statistically analyze the results.

Findings: The factors Perceived Usefulness and Trust were found to be significant on Behavioral Intention, whereas Perceived Ease of Use and Habit was found to be not significant.

Implications: Banking and Financial organization can use the results from the study to strategize and to attract consumers to adopt m-banking in India.

Keywords: m-banking, Perceived Usefulness, Perceived Ease of Use

Introduction

There is an exponential growth in digital payments in India due to (a) the “Digital India” initiative by the Government of India (b) a push during demonetization during November-2016 (c) further fueled by the pandemic situation. The emergence of mobile commerce consists of mobile payment, mobile marketing, and m-banking (Amit Shankar, 2015). In the context of this study, m-banking can be defined as a service provided by banks, mobile network operators, and financial organizations for conducting financial transactions (opening fixed deposit, paying utility bills, and transferring funds to another bank account) and non-financial transactions (checking account balance) using a mobile phone of the consumer (Sankaran and Chakraborty, 2021). Mobile web services came into existence in the year, 1999. Earlier, m-banking was only permitted to perform through text or SMS, which is primarily known as SMS Banking, but

now, m-banking is operating through the mobile web (browser-based World Wide Web Services) via Wireless Access Protocol(WAP) support.

Total mobile subscribers in India as of March-2020 are 1177.97 million (TRAI, 2020). Overall teledensity (number of telephone connections per 100 populations, in an area) at the end of March-2020 was 87.37%(TRAI, 2020). India has 504 million active internet users as of November-2019, who are using it for the last five years or more. 53 million new users were further added, having a growth of 12% in November-2019 compared to March-2019(IAMAI, 2020).

India's digital journey is one of exuberance. The country had the world's second-largest internet population at over 483 million users in 2018. Of these, 390 million users accessed the internet via their mobile phones. Estimates suggest that this figure would reach over 500 million by 2023 (Sandhya Keerlery, 2020).

M-banking has multiple uses. Some of them are (a) m-banking is easy to access because visiting banking and making fund transfer or withdrawal consumes much time (b) m-banking makes the customer perform financial transactions within minutes (c) m-banking helps the users to transfer funds, pay bills, checking the account balance, checking the history of transactions (d) m-banking is very easy to use, which helps to monitor the account balance (e) by staying at home, m-banking consumer can access to their account through the internet (f) m-banking consumer can easily activate or deactivate the ATM Card. M-banking is the result of recent telecommunication growth and innovation, which provide a new access point to the customer. M-banking is a kind of m-commerce in which bank customers interact with banks through mobile and enjoying all facilities and services provided by banks via mobile applications(Amit Shankar, 2015).

Literature Review

In this section, we detail the literature related to the factors influencing the behavioral intention of the consumer using m-banking in India. Adoption is a kind of decision about taking optimal use of any innovation. In this paper, factors which affecting consumer using m-banking in India were explored.

Cruz (2010) investigated the factors affecting the adoption of m-banking services and found that the majority of consumers of m-banking in India do not use m-banking service. The reasons behind not using m-banking were perception of cost, risk, low perceived relative advantage, and complexity(Cruz, 2010).(Lee, 2003)conducted a qualitative study to examine and understand consumers' behaviour and motivation towards m-banking, focusing on both the innovative attributes and consumers' perceived risk concerns.

Conceptual Model and Hypothesis

The population using m-banking in India is enormous. Numerous factors influence consumer intentions and perceptions of m-banking. Factors like risk, usefulness, ease of use, reliability, security, understandability, and cost affect consumer behavioral intention. As part of this study, a few prominent factors, namely a consumer's perceived usefulness, perceived ease of use, habit, and trust were used to develop a conceptual model as given in Figure 1.

The dependent variable is one that changes according to the change in an independent variable(s). The study envisages understanding the effect of perceived usefulness, perceived ease of use, habit, and trust on the consumer's behavioral intention to adopt m-banking in India.

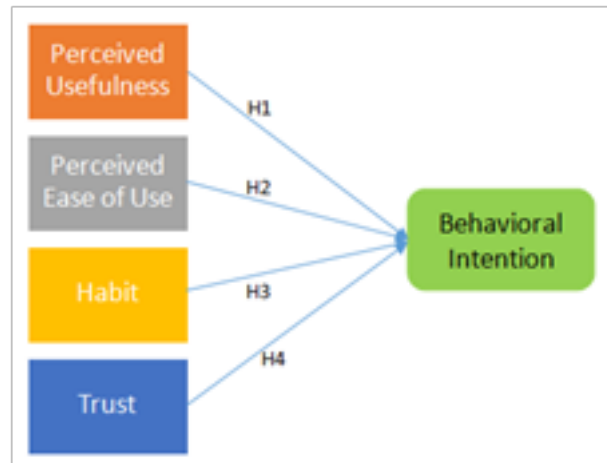


Figure 1: Conceptual Model of factors influencing Behavioral Intention of Consumer

Perceived Usefulness

The individual's behavioral intention (BI) is directly influenced by the perceived usefulness (PU) (Ulun Akturan, 2012). This factor explains how a user finds them-banking useful and whether it influences the behavioral intention of the customer. It describes the perception of the user, towards the usefulness of m-banking in daily life, the way m-banking increases the productivity of the user. m-banking helps the customer accomplish things very quickly, as the time required to make a financial transaction is just a few minutes. M-banking saves time and helps to achieve things in a limited period.

H1: Perceived Usefulness has a positive effect on Indian Consumers Behavioral Intention to use m-banking

Perceived Ease of Use

To transfer funds, or to make any utility bill payment, there are only a few steps required in m-banking, to make the transaction, m-banking is made easy to use and easy to learn, and understandable. It reduces the complexity to carry cash in hands while performing financial transactions by visiting banks physically, where a user can do the financial transactions by a mobile device. m-banking replaces all debit and credit cards, cash, cheque book, bank passbooks, receipts, etc. This factor perceived ease of use positively affects the attitude towards a consumer using m-banking in India.

H2: Perceived Ease of Use has a positive effect on Indian Consumers Behavioral Intentions to use m-banking

Habit

Consumer perceiving performing m-banking as a usual manner of behavior. Earlier, people used to have a habit of carrying cash, of making financial transactions, either to buy a commodity or any service. But now m-banking has replaced the habit of the consumer using physical cash, debit cards, credit cards, etc., with a single mobile device. m-banking has become a habit to most users, as they are doing the transactions through m-banking every day in their daily lives. A consumer using m-banking to pay bills, make financial transfers, purchase any product, and do many other financial activities.

H3: Habit has a positive effect on Indian Consumers Behavioral Intentions to use m-banking

Trust

The trust is created on something secure, reliable, and which gives consistent results. The m-banking is trusted by the consumer because it is reliable, consistent wherever financial activity has been done successfully. Banks also induce efforts to maintain consistency and reliability of m-banking applications. M-banking has the potential to improve people's quality of life and to bring efficiency to banks. Due to the high perceived risk, consumer's initial trust is crucial while facilitating their adoption and usage of m-banking. This research examined consumer's initial trust in mobile banking.

H4: Trust has a positive effect on Indian Consumers Behavioral Intentions to use m-banking

Research Methodology

A population is the group of all items of interest, which is usually very large. It means the overall group having similar interests. A population may be finite or infinite. The population of people using m-banking is infinite (Sankaran and Chakraborty, 2021). A sample is a set, which is drawn from the population, through sampling. Sampling means the method of collecting the required number of items from a large population. The sample of Indian consumers using m-banking is drawn by using convenience sampling from an infinite population. Convenience sampling is a type of nonprobability sampling in which people are sampled because they are "convenient" sources of data for researchers. In probability sampling, each element in the population has a known nonzero chance of being selected through a random selection procedure (Lavrakas, 2008).

Sampling Procedure

The data collection resulted in a total of 113 responses of the consumers using m-banking in India. Out of 113 responses, 13 responses were removed. 10 responses were removed due to duplicate records, and 3 due to unengaged response. Unengaged responses are those who mentioned the same rating for all the items in Likert scale.

Instrument Development

A structured questionnaire was used to collect data using a seven-point Likert scale. The scale items for perceived usefulness, perceived ease of use, habit and trust were adapted from (Sankaran and Chakraborty, 2021). Online google form was used, which consisted of 20 questions. 4 questions were used for each factor, resulting in a total of 20 questions to determine the factors influencing m-banking in India. The Likert scale used in the questionnaire ranges from 1 to 7 (1 as strongly disagree and 7 as strongly agree). The adapted scale was proven from the Indian context, which is empirically validated by the study (Sankaran and Chakraborty, 2021).

Data Collection

Primary data was collected from the respondents using a google form in an online mode. The data collection phase resulted in a total of 113 responses. The data was validated using conditional formatting, in Microsoft Excel, to exclude duplicate records. Out of 113, this phase resulted in a usable sample of 100 responses, ensuring no missing data and no duplicate responses.

Data Analysis

IBM SPSS was used for statistical analysis of the data. Cronbach Alpha was used to measure the internal consistency of the factors.

Descriptive Statistics

From the usable sample of 100 respondents, (a) 55% were male and 45% female (b) married were 6% of the overall sample and un-married were 94% (c) 85% respondents were from the age groups of 17-25, followed by 13% in 25-50, and 2% in the age group of 50+. In the data collected, 85% of respondents were in 17- 25 age group and 94% were unmarried.

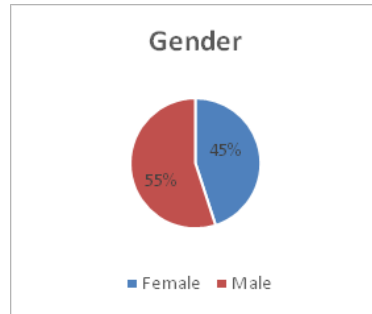


Figure 2: Responses based on Gender

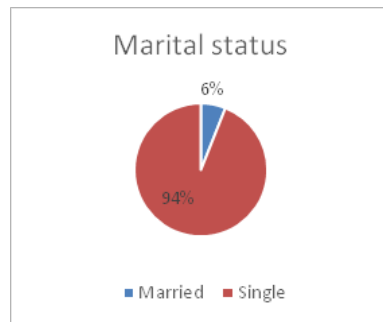


Figure 3: Responses based on Marital Status

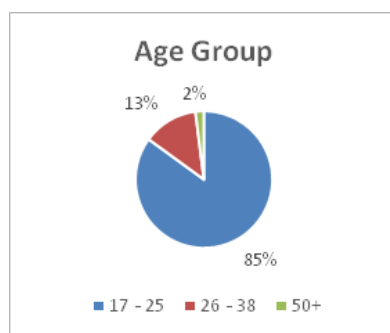


Figure 4: Responses based on Age Group

Instrument Validity

Cronbach Alpha was used to check the reliability of all the factors influencing m-banking in India. The resulting value of Cronbach Alpha (used to find the internal consistency of all the items that are related close internally) was found to be greater than 0.886 (refer Table 2), which is greater than the recommended value of 0.7 (Hair et al., 2010).

Table 2: Values of Cronbach Alpha

Factor	Cronbach Alpha
Perceived Usefulness (PU)	0.886
Perceived Ease of Use (PEOU)	0.903
Habit (HB)	0.889
Trust (TR)	0.938
Behavioral Intention (BI)	0.897

As given in Table 3, Kaiser-Meyer-Olkin Measure of Sampling Adequacy obtained was 0.894, and the value was found to be significant. The KMO measure and the significance value (p-value) less than 0.05, indicates that the data is suited for this study, and we can further go ahead with factor analysis.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	1459.730
	df	136
	Sig.	.000

Factor Analysis

The factor analysis is a technique used to reduce a large number of items influencing factors into fewer numbers of factors. In this study, factor analysis was performed using Promax rotation. During factor analysis, two items HB2 and BI4 were removed due to cross-loading with other factors, and one item PU1 was removed due to a low factor score (0.457). As a result of factor analysis (refer Table 4), five distinct factors were obtained.

Table 4: Factor Analysis

Factor->	1	2	3	4	5
PU2			.857		
PU3			.858		
PU4			.907		
PEOU1		.870			
PEOU2		.923			
PEOU3		.802			
PEOU4		.816			
HB1				.810	
HB3				.891	
HB4				.783	
TR1	.804				
TR2	.970				
TR3	.909				
TR4	.914				

BI1					.799
BI2					.753
BI3					.970

A scree plot always displays a downward curve. The number of factors generated in the analysis is indicated by the point where the slope of the curve is levelling off the elbow. As given in Figure 5 scree plot, a total of five factors were retained in factory analysis.

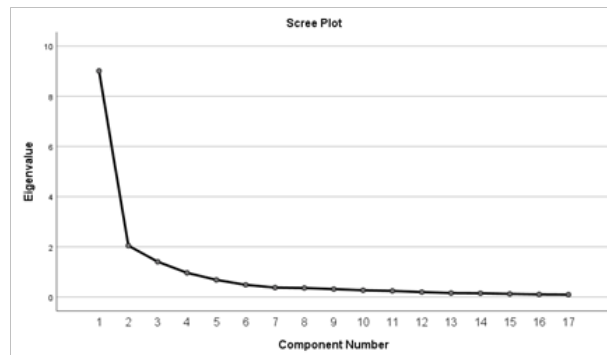


Figure 5: Scree Plot

Regression

The R square would provide the percentage variation in behavioral intention explained by the factors perceived usefulness, perceived ease of use, habit, and trust. In this study, R square value obtained was 54.2% which indicates the four factors (perceived usefulness, perceived ease of use, habit, and trust) represent 54% of the behavioral intention of consumer using m-banking in India.

The regression test resulted in perceived usefulness (PU) and trust (TR) with a significance value of less than 0.05. This indicates that perceived usefulness (PU) and trust (TR) were supported in this study. Perceived ease of use (PEOU) and habit (HB) were found to have a p-value greater than 0.05 which indicates that Perceived ease of use (PEOU) and habit (HB) were not supported.

The study was to test the combined impact of these four independent factors on the dependent factor (buying intention). The proposed regression model will be

$$\text{Behavioral Intention (BI)} = b_0 + b_1 (\text{PU}) + b_2 (\text{PEOU}) + b_3 (\text{HB}) + b_4 (\text{TR})$$

$$\text{BI} = 0 + 0.244(\text{PU}) + 0.156(\text{PEOU}) + 0.120(\text{HB}) + 0.400(\text{TR})$$

Table 5: Hypothesis Test Results

Hypothesis	Path	Beta coefficient	P-value	Significance
H1	PU-BI	.244	.004	Supported
H2	PEOU-BI	.156	.083	Not Supported
H3	HB-BI	.120	.218	Not Supported
H4	TR-BI	.400	.000	Supported

Conclusion

The study produced valuable insights regarding perceived ease of use and trust of the consumer on m-banking strongly influence the behavioral intention of the consumer in India. In the adoption of m-banking in India, perceived usefulness and trust are found to be the main determinants.

From this study, we can conclude that consumers find m-banking useful in their daily life and perceive m-banking as desirable. Using m-banking has also increased their productivity and consumer found m-banking helpful to accomplish the tasks very quickly. This research verified the effect of the trust of a consumer on their behavioral intention. This indicates consumers found m-banking secure and reliable. From the sample, it was found that a typical consumer of m-banking is a highly educated, relatively young and wealthy person with a good knowledge of computers. The study also found that perceived ease of use and habit of a consumer using m-banking have less effect on the behavioral intention. It can be inferred that consumers did not find it difficult to understand m-banking and consumers are also not addicted to using m-banking.

Limitations

The diverse data collected for the study was very small, that is 113 samples. Out of which 13 were removed due to duplicate and unengaged responses. The study was conducted only with 100 samples, which is collected more from the age group of 17-25 years. The study insights may differ with an increase in sample size. With a larger sample size, Structural Equational Model can be performed.

Factors	Items	Description of Items
PU (Perceived Usefulness)	PU 1	I find mobile banking useful in my daily life
	PU 2	I find using mobile banking increases my productivity
	PU 3	Using mobile banking helps me accomplish things more quickly
	PU 4	Using mobile banking increases my chances of achieving things that are important to me
PEOU (Perceived Ease of Use)	PEOU 1	Learning how to use mobile banking is easy for me
	PEOU 2	My interaction with mobile banking is clear and understandable
	PEOU 3	I find mobile banking easy to use
	PEOU 4	It is easy for me to become skillful at using mobile banking
HB (Habit)	HB 1	The use of mobile banking has become a habit for me
	HB 2	I am addicted to using mobile banking
	HB 3	I must use mobile banking
	HB 4	Using mobile banking has become natural to me
TR (Trust)	TR 1	I trust mobile banking to be reliable
	TR 2	I trust mobile banking to be secure
	TR 3	I believe mobile banking are trustworthy
	TR 4	I trust mobile banking
BI (Behavioural Intention)	BI 1	I intend to continue using mobile banking in the future
	BI 2	I will always try to use mobile banking in my daily life
	BI 3	I plan to continue to use mobile banking frequently
	BI 4	I predict I will use mobile banking in future

Source: The questionnaire was adapted from the research (Sankaran and Chakraborty, 2021)

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