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## **Factors Affecting Indian Consumers' Adoption of Mobile Banking: An extension of Diffusion of Innovation Theory**

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### **ABSTRACT**

Mobile banking represents a breakthrough technology that has sought much consideration from mobile phone companies and banking industry, however in India the mobile banking acceptance is moderately low than its expected level as witnessed by a large number of population. This is notwithstanding the way that there is an urgent needed to explore and conclude the factors forming attitude of customers towards M-Banking. For this reason this research is aimed to determine the factors affecting Indian consumers' adoption of mobile banking in India. To operationalize the objectives of this research study, a conceptual model has been proposed consisting of the Diffusion of Innovation Theory along with Social Influence. In order to validate the proposed conceptual model, the empirical data from 240 mobile banking users have been collected and analyzed by using two statistical software's IBM SPSS-20 and AMOS-20 to extract the results of this research study. The results show that Relative Advantage, Compatibility, Observability and Social Influence have a significantly positive impact on mobile banking adoption among Indian mobile banking users. While on the other hand, Trialability and Complexity are found to be having an insignificant impact on the adoption of mobile banking. The mobile banking adoption also has a positive impact on mobile banking users' loyalty towards m banking in India. Further conclusions, limitations and future research are exhibited at end of the research paper.

Keywords: Mobile Banking, Adoption, Diffusion Innovation Theory, India

### **1. Introduction**

Mobile is emerging as a major and influential mode of banking services. It is enchanting over banking services via internet as well as other non-cash forms of financial transactions. Besides it is also penetrating in the segment of monetary transactions, and is expected that plastic cards (For example, Debit cards and credit cards) may get replaced by the mobile banking services. Probably, this will reduce the requirements and quantum of cash, as the routine and daily transactions among the sellers, buyers and other transacting parties may be done with the help of mobile banking because m-banking exchange funds instantly. Mobile banking services have been getting diversified by the banking institutions and as a result of this their reliability and credibility among the people as well as organizations are increasing hence, it has emerged as a significant mode for banking services in addition to online banking, telebanking and automated teller machines (Lee et al., 2007). M-Banking could be considered as an instance of mobile based technologies marching towards the banking sector, empowering clients to separately create various monetary transactions via Mobile devices,



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Smart-phones, or Personal Digital Assistants at anytime and anywhere that clients prefer (Alalwan et al., 2016; Lee, Harindranath, 2015; Lin 2013).

Banking sector has introduced mobile banking services aiming at providing clients more enhanced quality of banking services by providing user-friendly and cost-effective channels, which ultimately will result in higher levels of satisfaction and loyalty (Alalwan et al., 2015; Wessels and Drennan, 2010; Gu et al., 2009). Exponential growth in M-Banking may be primarily credited to advancements in mobile and telecommunication technologies. In fact, these revolutionary changes facilitate results which enable banking institutions to competently meet their customers' needs in best possible manner. (Laukkanen and Cruz, 2009; Wessels and Drennan, 2010).

Globally, the mobile phone users are increasing day by day enormously. As per the (Statista, 2018c), the mobile phone subscribers has crossed approximately 4.6 billion in 2016 and these figures are projected to touch 5.07 billion by 2019. Similarly, the use of mobile applications have penetrated in almost every aspect of humans life (Dwivedi et al., 2017). With the objective of getting the benefits of increasing mobile user's base, the telecommunication companies have been diversifying their product lines through strategically designed pricing policies. Besides the companies are investing intensively in their R&D projects for product innovations ( Shareef et al., 2018; Xu et al., 2017).

The purpose of this study is to explore various technical factors and how do they influence mobile banking adoption in India. The study uses diffusion of innovation as a base-line theory to investigate factors that may influence adoption of mobile banking and use. Five factors namely, relative advantage, compatibility, complexity, trialability, and observability were identified by (Rogers 2003) in his book "Diffusion of Innovations". Rogers advocated these factors to be used in order to determine the of adoption rate of an innovation. In Indian scenario this research study perhaps seems to be the first of its kind that has deployed diffusion of innovation theory, in M-banking sector. This research paper has been organized in the following manner Introduction, Literature Review, Conceptual model, research hypothesis, research methodology, data analysis and interpretation followed by discussion and conclusion, limitations and future directions for research.

### **1.1 Mobile Banking in Indian Scenario**

According to RBI's annual reports 2017-18 published in Economic Times, mobile banking services witnessed a growth of 92 per cent and 13 per cent in volume and value terms, respectively. Gone are days where mobile phones were used just to make calls, send messages, and take photographs. An increasing number of us are using our phones for financial transactions. The number of registered customers rose by 54 per cent to 251 million at end-March 2018 from 163 million at end-March 2017. In general, the share of electronic payments in the total volume of retail payments has gone up. The share of electronic transactions in the total volume of retail payments increased to 92.6 per cent in 2017-18, up from 88.9 per cent in the previous year with a corresponding reduction in the share of paper-based clearing instruments from 11.1 per cent in 2016-17 to 7.4 per cent in 2017-18. Volume and value of the payment and settlement systems grew 44.6 per cent and 11.9 per cent, respectively.



### 1.2 Growth in electronic payments

According to the apex bank’s annual reports published in Economic Times an Indian newspaper, here is the growth witnessed in various electronic modes of payments

- The Real Time Gross Settlement system handled 124 million transactions valued at Rs 1,167 trillion in 2017-18, up from 108 million transactions valued at Rs 982 trillion in the previous year. At the end of March 2018, the RTGS facility was available through 1, 37,924 branches of 194 banks.
  - The NEFT system handled 1.9 billion transactions valued at around Rs 172 trillion in 2017-18, up from 1.6 billion transactions valued at Rs 120 trillion in the previous year, registering a growth of 20 per cent in terms of volume and 43.5 per cent in terms of value. At the end of March 2018, the NEFT facility was available through 1,40,339 branches of 192 banks, in addition to a large number of business correspondent (BC) outlets
  - During 2017-18, the number of transactions carried out through credit cards and debit cards was 1.4 billion and 3.3 billion, respectively.
- Prepaid payment instruments (PPIs) recorded a volume of about 3.5 billion transactions, valued at Rs 1,416 billion

### 1.3 Payments’ infrastructure

The number of Point of Sale (POS) terminals deployed increasing by 24 per cent from 2.53 million in 2016-17 to 3.14 million in 2017-18. However, during the same period, the ATMs deployed witnessed.

### Number of mobile phone internet users in India from 2015 to 2022 (in millions)

Table 1

Year	Users
2015	242.92
2016	281.81
2017	320.57
2018	358.46

Reports published in Economic Times

## 2. Literature Review

In recent times, M-Banking related issues have been the focal point of consideration for many researchers (Lee et al., 2014; Purwanegara et al., 2014; Alalwan et al, 2016). Though, inspection of the usage patterns of M-Banking has received significant attention in M-banking literature (Mishra and Bisht, 2013; Purwanegara et al., 2014; Zhou et al., 2010).

Similarly the Innovation Diffusion Theory (IDT) had been deployed in addition to Perceived ease of use , Trust (i.e. Lin, 2011; Hanafizadeh et al., 2014), customer experience with cell-phone technology, self-efficacy (SE), and facilitating conditions as advocated by (Brown et al. 2003). A qualitative research study, proposed by (Lee et al., 2003), where the Diffusion Innovation Theory attributes – (Relative advantage, Compatibility, Trialability and Complexity) – play a significant role in shaping attitude of customer towards adoption of M-banking. So also (Püschel et al. 2010) found that attitude of Brazilian customers towards M-



banking were significantly influenced by Relative advantage and compatibility; in the long run improving the customers aim to embrace M-banking. In South Africa, (Brown et al., 2003) concluded in their research that banking customers are more motivated for adoption of M-banking by - (Relative advantage, Trialability, and consumer banking needs). Besides ease of use, customer trust (integrity and competence), relative advantage, and compatibility were found by (Lin. 2011) to be the important stimulating factors of customers' attitudes regarding M-banking, and finally these factors were found to be the facilitating factors for the adoption of M-banking by banking customers.

According to (Purwanegara et al. 2014,) advocated a significant role played by - perceived benefits and Governmental regulations in shaping the customers' attitude towards M-banking in Indonesia. Several other researchers conducted by (Hanafizadeh et al. 2014) in Iran and (Wessels & Drenna., 2010) in Australia, both of these studies concluded that customer is perceived to be more motivated to use M-banking if M-banking is proved to be useful in their day to day life, compatible with their habitual patterns along with several other new technologies, coupled with low costs.

Research studies conducted in the area of M-banking revealed that Customers' personality characteristics are also considered significant in M-banking area. For instance, innovativeness is demonstrated as having a influential positive role in improving dimension of - perceived usefulness and ease of use (i.e. Lee et al., 2002; Lu et al.,2005; Parveen and Sulaiman, 2008) just as thwarting the dimensions of Perceived risk related with M-banking use (i.e. Cheng and Huang, 2013). Self-efficacy as a personality trait has been mentioned by several researches as a major indicator of the customer's recognition and aims towards various types of mobile related technologies (Lee et al., 2002; Lin and Wang, 2005; Mishra, 2011; Rana et al., 2017; Sadi and Noordin, 2011).

### **3. Conceptual Model and Research Hypothesis**

#### **Relative advantage**

Relative advantage is seen as long as more advantageous than its antecedents (More & Benbasat 1991). Relative advantage results into improved effectiveness, financial advantages' and heightened status (Rogers 2003). Previous researches have concluded that relative advantage of an innovation has significantly positive correlations with the rate of adoption (Moore & Benbasat 1991). This examination found that if clients perceive relative advantage or usefulness of a new technology over earlier ones, at that point they will in general adopt it (McCloskey 2006; Rogers 2003) as far as the M-banking adoption, benefits like instantaneousness, comfort and affordability in terms of cost of an innovation are viewed as critical variables that clients contemplates(Lin 2011). Subsequently it is hypothesized that, when clients perceive distinct advantages offered by mobile banking, at that point the clients are eager to embrace it.

**H1.** Relative advantage will have a positive effect on mobile banking adoption.



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### Complexity

(Cheung et al. 2000) clarifies complexity as the degree up to which a new technology might be considered moderately hard to understand and utilize. They inferred that technical intricacies of an innovation adversely impact the adoption of that innovation. Complexity or intricacy implies reciprocal of the ease of use. Ease of use or convenience might be expressed as the degree to which M-banking is seen easy to understand and work with. An extensive literature in this regard recommends that there is a significant positive correlation between the perceived ease of use of an innovative technology and its adoption (Gu et al. 2009; Wang et al. 2006). Because M-banking services have interfaces which are conducive for users and as a result of this the customers see them as simple to utilize and form positive attitudes towards them (Lin 2011).

**H2.** Complexity will have a negative effect on mobile banking adoption.

### Compatibility

Compatibility means how much a service is seen as reliable with customer values, convictions, propensities and present and past life exposures (Chen et al. 2004). Compatibility is an indispensable component of development as conformance with users way of life can move acceptance at a fast rate (Rogers 2003). Research has demonstrated that compatibility is an important variable in determining customer's frame of mind towards M-banking adoption in Malaysia (Ndubisi & Sinti 2006). Compatibility has additionally been discovered persuasive in the selection of virtual store (Chen et al. 2004), M-transactions (Chen. 2008), and M-banking (Koenig-Lewis 2010; Lin 2011). Consequently, all things considered, this connection among Compatibility and adoption will hold with regards to Mobile banking.

**H3.** Compatibility will have a positive effect on mobile banking adoption.

### Observability

Observability of a development depicts the degree to which advancement is obvious to the peoples, and the advantages can be effectively observed and conveyed (Rogers 2003). (Moore & Benbasat 1991) briefed the Observability construct into two subgroups visibility and result demonstrability. With regards to M-banking, observability is characterized as the capacity to get the banking services and other facilities anytime and anywhere, through such introduction customers gain information about mobile banking and its advantages, in this way encouraging adoption.

**H4.** Observability will have a positive effect on mobile banking adoption

### Trialability

Trialability describes the ability to try different things with new innovations before adoption. Potential M-banking customers are permitted to explore different aspects of a new innovation will increasingly feel a sense of greatness with it and are bound to embrace this innovation (Agarwal & Prasad 1998; Rogers 2003). Further assistance in this regard is presented by (Tan & Teo. 2000) who contend that if customers are allowed to permitted try new innovation then it will mitigate their obscure feelings and apprehensions and it will result into its adoption. With banks giving help and exhibits on mobile banking use while in the time for trying and testing, fears about M-banking can be reduced and this will likewise propel or inspire potential adaptors to utilize M-banking.

**H5.** Trialability will have a positive effect on mobile banking adoption.



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### **Social influence**

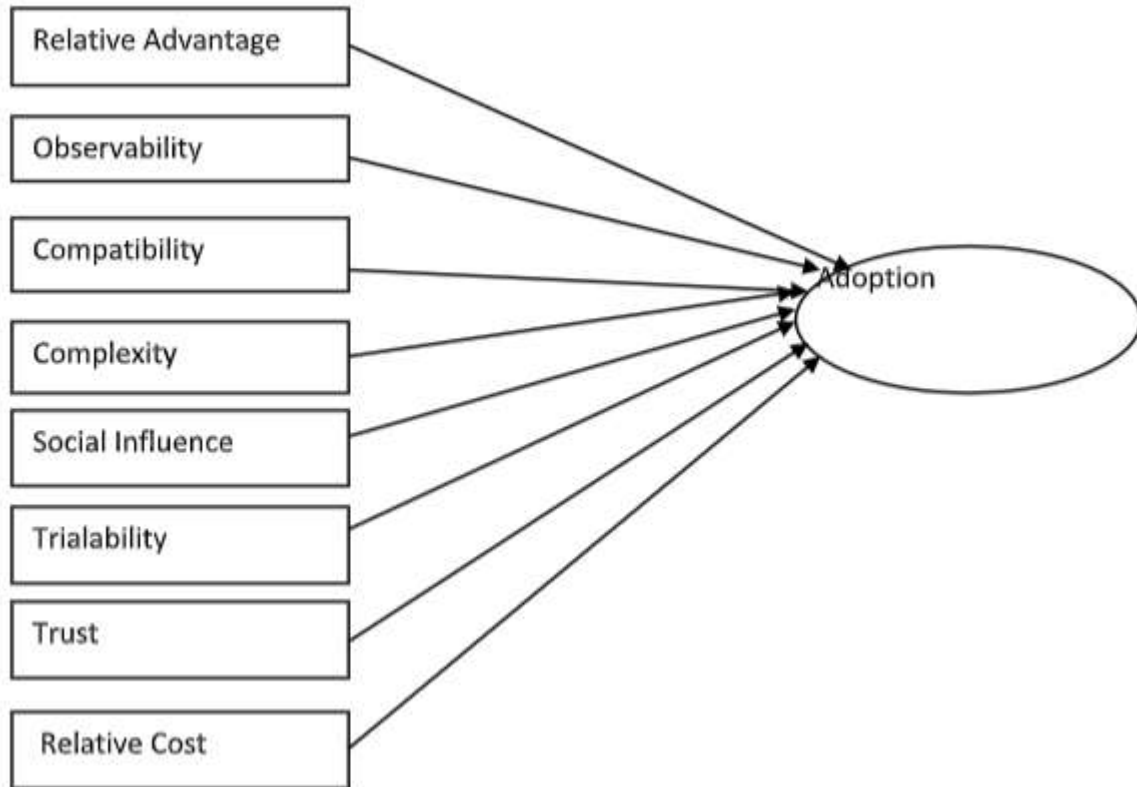
Social influence refers to “the extent of an individual perception about what other people believe whether he or she should apply the new system” (Venkatesh et al., 2003). The preferences and values of society, family members, friends, relatives, neighbors and other users of the technology, tend to change the perceptions and viewpoints of users profoundly (Alsheikh & Bojei, 2014; Rana, Dwivedi, & Williams, 2015). This particularly occurs when the present users of a given technology are influenced by the shift of their peers and families from using one technology to another (2017b, Baptista & Oliveira, 2015; Dwivedi, Rana, Janssen et al., 2017). In an age when social media and word of mouth dominate the cyber world (Dwivedi et al., 2018; Kapoor et al., 2018; Roy, Singh, Baabdullah, Kizgin, & Rana, 2018), the effects of social relationships can either maintain or increase the usage of a given technology or divert users towards a socially acceptable new technology (Al-Somali, Gholami, & Clegg, 2009; Williams, Rana, & Dwivedi, 2015). Indeed, users might switch their usage of non-socially acceptable technology to socially acceptable technology in order to get higher levels of social interaction and integration (Jahya, 2004). SI positively affects the usage of M-banking in Saudi (Al-Husein and Sadi (2015). Thus, as per the discussion: it is hypothesized that

**H6.** Social influence will have a positive effect on mobile banking adoption.

### **Adoption ( satisfaction)/ Loyalty**

(Rogers 2003) characterized adoption as a choice to make full utilization of a new innovation. Here, we are aimed at exploring and analyzing the factors having an impact on M-banking adoption in India. However, a vast amount of literature is available which explains the term “adoption” as execution, usage, fulfillment of needs and wants and satisfaction; hence this research study also utilizes satisfaction as it is the generally applied measure of adoption. Satisfaction has frequently been utilized as a dependent variable for Information Technology adoption (DeLone & McLean 2003). The explanation behind choosing satisfaction as dependent measure for adoption is twofold. In the First place, satisfaction has a high level of legitimacy. Second, the satisfaction is generally utilized as a success measure (DeLone & McLean 2003; Zviran & Ehrlich 2003) and post-adoption measuring factor of M- banking service (Park et al. 2011. A company tends to increase the level of user satisfaction as a main policy for achieving the highest loyalty to its brands (Lin & Wang, 2006; Saleem & Rashid, 2011). User satisfaction is an antecedent step for getting their loyalty (Lin and Wang 2006).

**H7.** Satisfaction/Adoption positively enhances customers’ loyalty in India.



(Proposed Research Model)

#### **4. Research Methodology**

In order to acquire the empirical data required to approve the conceptual model and investigate research hypothesizes a questionnaire was constructed to gather the essential data (Dwivedi and Irani, 2009). 240 questionnaires were administered to get responses of banking customers regarding their views about Mobile banking adoption. Be that as it may, out of these 265 questionnaires only 233 were received from the respondents which were appropriately filled up. 5-Point Likert scale ranging from strongly agrees to strongly disagree have been utilized in the present research to gauge the fundamental constructs in the theoretical model.

Through an extensive literature review and in the views of focus group discussion, a survey instrument was explicitly produced for this research. The review instrument comprised of two sections of questionnaire. The initial segment of the questionnaire was intended to elicit demographic profile of respondents. The second part was intended to capture the data regarding factors influencing the adoption of mobile banking, namely Relative advantage, Complexity, Compatibility, Social Influence, Observability, Trialability, Adoption and Customer loyalty.

The measurement items of these constructs are adopted from prior research on internet and mobile banking [Lee & Chung 2009; Lin 2011; Ndubisi & Sinti 2006; Rogers 2003; Tan &



Teo 2000] and adapted for this study. Subsequently to building up the instrument a pilot test was directed on 20 respondents chosen randomly with various backgrounds mainly concentrating in the university. This was done to guarantee lucidity and legitimacy of the review instrument. In the wake of getting responses it was chosen to change the wordings of certain inquiries as they were observed to need more clearance. The last things and their relating sources are recorded in “Appendix”. All things were estimated with a 5- Likert scale going from 1 (strongly disagree) to 5 (strongly agree).Every collected questionnaire was reviewed for its completeness. To expand exactness and accuracy, an altering procedure was embraced by evaluating the responses and screen out the obscured, conflicting and vague reactions. A code sheet was then arranged after this procedure, information cleaning was attempted for a progressively exhaustive and broad treatment of reactions. All information was inputted utilizing the IBM SPSS and AMOS for the following stages of analysis. After this round of deletions.

Table 2  
Demographic characteristics of the respondents

Variable		N	Percentage
Gender	Male	163	67.91
	Female	77	32.08
Age (years)	19-25	183	76.25
	26-30	36	15
	31-35	13	5.41
	36-40	5	2.08
	Above 41	3	1.25
Nationality	Indian	240	100
	Others	-	-
Educational Qualification	High School	-	-
	Diploma	6	2.5
	Bachelor	115	48
	Master Degree	101	42
	PhD	11	4.5
	Others	7	2.91
Occupation	Student	233	97.08
	Executive	-	-
	Worker	-	-
	Not-Employed	-	-
	Self-Employed	7	2.91
	Others	-	-





## 5. Results and Discussion

A two-way approach of the SEM (structural equation model) has been deployed in order to validate the proposed research model and for testing the stated research hypothesis. In the initial stage the CFA which is confirmatory factor analyses, has been tested with the purpose of ensuring a standardized level of model fitness, reliability and validity of the research constructs. Similarly, in the later stage, research hypothesis have been tested through structural model.

Common fit indices has been deployed to assess model fit. Absolute fit indices which includes  $\chi^2/df$  (Chi-square to degree of freedom ratio) and RMSEA (root mean- square error of approximation). Incremental fit indices comprised CFI (comparative fit index) and TLI (Tucker-Lewis Index). Also, parsimony fit was examined using AGFI (adjusted goodness-of-fit index). The model fit is good when  $\chi^2/df < 3.0$ , with the values of CFI, TLI  $\geq .90$ , RMSEA  $\leq .08$  (Hu & Bentler, 1999), and AGFI  $\geq .80$  (Chau & Hu, 2001). The resultant fit statistics ( $\chi^2(293) = 377.405$ ,  $p < .001$ ;  $\chi^2/df = 1.292$ ; CFI = .982; TLI = .978; RMSEA = .035; AGFI = .871) were all greater than the minimum acceptable level (Hair, Black, Babin, & Anderson, 2010; Tabachnick & Fidell, 2007).

All retained items were also subjected to tests for construct reliability and validity. Both composite reliability (CR) and average variance extracted (AVE) were considered in this instance (Anderson & Gerbing, 1988). As seen in Table 3, the CR values for all constructs were noticed to be above 0.70 (Fornell & Larcker, 1981). The largest CR value was recorded for Use followed by Adoption while the lowest value was for Triability. As for the AVE values, all constructs have an acceptable value of AVE higher than 0.50 as suggested by Fornell and Larcker (1981) and Hair et al. (2010). The highest value of AVE was for Use followed by Adoption while the lowest value was found in the case of Triability. Prior to going further in the structural model analyses, there was a necessity to apply Harman's single-factor test (1976) to avoid any problem pertaining to the common method bias. Thus, 8 latent constructs with their unremoved items were downloaded to Harman's single-factor test provided in IBM SPSS 20. The yielded results in this regard indicated that no single factor was able to emerge, while less than 32.477% of variance was recorded by the first factor. This value is less than the recommended one ( $< 0.50$ ) (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Therefore, it seems that there was no problem regarding the issue of common method bias.



Table 2  
Factor loading and Chronbach’s Alpha

Constructs	Item	Factor Loading	Chronbach’s Alpha
Obesrvability	OB1	.886	.926
	OB2	.862	
	OB3	.795	
	OB4	.750	
Relative Advantage	RA1	.864	.875
	RA2	.831	
	RA3	.823	
	RA4	.670	
Social Infulance	SI1	.887	.890
	SI2	.874	
	SI3	.862	
Compatiability	CP1	.835	.916
	CP2	.795	
	CP3	.784	
	CP4	.776	
Triability	TR1	.867	.774
	TR2	.824	
	TR3	.781	
Complexity	CX1	.923	.899
	CX2	.901	
	CX3	.887	
Adoption	AD1	.832	.927
	AD2	.786	
	AD3	.785	
Loyalty	LY1	.922	.916
	LY2	.901	
	LY3	.885	

Table 3  
Results of Measurement Model.

Fit indices	Cut-off Point	Modified measurement model
CMIN/DF	≤3.000	1.292
GFI	≥0.90	.901
AGFI	≥0.80	.871
NFI	≥0.90	.925
CFI	≥0.90	.982
RMSEA	≤0.08	.035



Table 4  
Validity and diagonal correlation

	CR	AVE	TR	RA	OB	CP	CX	SI	AD	LY
TR	0.780	0.547	<b>0.739</b>							
RA	0.871	0.630	0.163	<b>0.794</b>						
OB	0.918	0.738	0.172	0.482	<b>0.859</b>					
CP	0.917	0.734	0.152	0.584	0.678	<b>0.857</b>				
CX	0.901	0.752	-0.045	0.132	0.100	0.159	<b>0.867</b>			
SI	0.891	0.732	0.118	0.247	0.315	0.342	0.103	<b>0.855</b>		
AD	0.923	0.799	0.063	0.554	0.611	0.604	0.098	0.402	<b>0.894</b>	
LY	0.919	0.790	-0.031	0.193	0.183	0.196	0.222	0.278	0.355	<b>0.889</b>

At the second stage of SEM, the structural model was tested to verify the conceptual model and its associated hypotheses. Similar to the measurement model, all fit indices of the structural model were observed to be within their acceptable levels as follows: GFI=0.987; AGFI=0.922; NFI=0.970; CFI=0.983; and RMSEA=0.069 (Hair et al., 2010; Tabachnick & Fidell, 2007). The main causal paths were tested using path coefficient analyses as seen in Table 5. The main factors of the Research Proposed Model, namely, Complexity ( $\beta = .004, t = .064, p > .05$ ) and Trialability ( $\beta = -.069, t = 1.147, p > .05$ ) towards Adoption of M-banking was not significant. Hence, H2 and H5 were not supported. In contrast, Relative Advantage ( $\beta = .256, t = 3.687, p < .000$ ), Compatibility ( $\beta = .224, t = 2.959, p < .05$ ), Observability ( $\beta = .363, t = 5.458, p < .000$ ), Social Influence ( $\beta = .210, t = 3.582, p < .000$ ) exerted a significant positive influence towards Adoption of M-banking. Thus, H1, H3, H4 and H6 were all supported. Notably, Adoption on M- banking exerted a strong positive impact on Loyalty ( $\beta = .337, t = 5.688, p < .000$ ); thus, H7 was supported.

To ensure that multicollinearity problem does not exist between main dependent and independent constructs, variance inflation factors (VIF) were tested and all values extracted in this respect were noticed within their recommended level (< 10) as seen in Table

Table 5  
Hypothesis Testing Results

	Estimate	S.E.	C.R	P	Label
Adoption <--- Relative Advantage	.256	.069	3.687	***	Supported
Adoption <--- Observability	.363	.066	5.458	***	Supported
Adoption <--- Compatability	.224	.076	2.959	.003	Supported
Adoption <--- Social Influence	.210	.059	3.582	***	Supported
Adoption <--- Complexity	.004	.055	.064	.949	Rejected
Adoption <--- Trialability	-.069	.061	1.147	.251	Rejected
Loyalty <--- Adoption	.337	.059	5.688	***	Supported

## 6. Discussion

Hypothesis H1 which is, relative advantage have positive implications on M-banking adoption and this relationship has been statistically supported. Thus this outcome seems to be in consistency with those of prior research works in the area of M-commerce (Khalifa & Shen 2008; Nor & Pearson 2007). Relative advantage is quite similar to perceived usefulness in the TAM model. This means that the customers who consider M-banking useful and convenient for managing their finances in an effective as well as efficient manner will tend to adopt it. Through an extensive literature review the researcher has concluded that compatibility is



apparently found as one of the most significant factors for the prediction of M- banking adoption practices. the results of earlier relevant research work (Koenig-Lewis 2010; Lin 2011). Several research works have validated the perceived compatibility of an innovative technology and the adoption of M-banking to be significantly positively correlated. This shows that M-banking services are in sync with the ways customers manage their finances, and suits their lifestyle patterns hence the customers are more likely to adopt new innovations and technologies. When prospective customers perceive M-banking use in compatibility with their present banking practices and it fits well with their banking ways then they tend to adopt M-banking.

Observability is statistically proved to have a significant bearing on M-banking adoption rate. In the area of M-banking observability is defined as the ability to see the beneficial results such as immediate access over several banking transactions anytime as well as anywhere. From the point of view of customers M-banking offers convenient, efficient and effective ways to manage a person's banking transactions because it is relatively easy to access M-banking anytime and anywhere. Complexity is demonstrated to have statistically insignificant ramifications over M-banking consequently it does not approve. This finding is surprising just as in logical inconsistency with the earlier research outcomes [Jahangir & Begum 2008; Luarn & Lin 2005], which express that there is no noteworthy impact of usability or ease of use on behavior of user to utilize the internet banking facilities.. Since youth are progressively mindful of new advancements they may have encountered different advances and along these lines have a decent base of learning on the best way to utilize and communicate with, M-banking. Trialability is demonstrated to have statistically insignificant ramifications over M-banking consequently it does not approve. This research bolsters different earlier research results as far as PC and telephone banking (Kolodinsky et al. 2004). Social influence is proved to have positive significant impact on adoption of M-banking by young Indian mobile banking users and this is not in consistency with the earlier research outcomes Venkatesh et al. (2003), hence, this particular research finding is surprising because the earlier mobile banking literature shows that there is less social concern regarding adoption of mobile banking. This research study also proves that the adoption is also having a positively significant impact on the consumers loyalty regarding mobile banking in India.

## **Conclusions, Limitations and Further Research**

### **Conclusions**

M-banking presents an appealing area of interest to be analyzed and contemplated from various perspectives. Our research outcomes propose that banks in India needs to provide M-banking services which are in compatibility of customer's needs, wants, exposures, experiences, lifestyle patterns and belief systems in order to satisfy their needs and expectations. With varied and improved M-banking services the customers start perceiving M-banking to be more useful and hence they tend to adopt M-banking at a faster pace. Therefore banks should focus on understanding the customer's behavioral patterns and must structure and develop trustworthy and foolproof M-banking systems that fits best with customer's needs and give helpful and improved quality services. Besides, banking organizations also pay attention on transmitting the relevant information focusing on the relative advantages as well as utilitarian aspects of M-banking as compare to traditional



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banking methods such as cost saving, time saving etc. Banks should devise appropriate strategic advertisements and communicate them with the M-banking users in order to mitigate their apprehensions about risk associated with M-banking services. The M-banking systems must ensure proper and adequate guarantees protecting customers against fraudulent practices and redress their grievances at the earliest to restore their faith in M-banking services. In India the M-banking services are witnessing great expansion in terms of value and volume besides the services offered by it are getting diversified.

#### **.Limitations**

This research has utilized convenient sampling method to gather information from the M-banking customers in only two cities of India (Jammu& Kashmir and Delhi), which in turn states that the results of this research cannot be generalized over the pan India. The sample design of this research demonstrate that majorly the respondents were youth, have a medium sized pay scale, well educated, well accomplished ,tech-savvy and computer savvy. Along these lines, this raises concerns with regard to application of the research outcomes for other sections of society having diverse demographic characteristics. Since this study has taken into account only six independent factors so it presents quite narrow view of the M-banking .To overcome these limitations and to get broader insights in the area of M-banking, other relevant affecting variables may be considered for further research purposes.

#### **Further Research Findings**

Given that the outcomes of the present research study mainly draws upon only six fundamental factors but to make this research more comprehensive other relevant factors affecting M-banking adoption, may be brought in its ambit. Besides, this research study gathered the required information from only two states of India (Delhi and Jammu & Kashmir), so in order to get more broader picture of this research, future research may be conducted by collecting data from other states and union territories of India and this data must be inclusive in terms of various communities, urban, rural, and semi urban areas etc. This research has been conducted mainly from the perspective of consumer behavior so its results does not portray a holistic view of M-banking .Hence future M-banking research may be conducted from the perspectives of other stakeholders.



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