

Contactless Payment System in India: A Study of Mobile Banking

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Abstract

In last two decades drastic changes have been observed in the financial services. Customers are continuously changing mode of services from manual banking to ATM banking to mobile banking. This mode of transaction attracted customers remarkably with high acceptance. Mobile banking is more beneficial in comparison to other banking modes it is less time consuming and cost effective too. So, mobile banking is becoming increasingly popular day-by-day. As a result of high profitability many non-bank players are entered in this region with innovative payment system and many network operators like Vodafone, Airtel, reliance etc have developed various payment services and spread mobile banking across the world. This contactless payment system has its own significance in online business. Present paper evaluates the significance of mobile banking in current scenario of banking along with its hurdles.

Key Words: Mobile Banking, Transactions, Payment, ATM, Internet Banking.

PAPER/ARTICLE INFO

RECEIVED ON: 26/09/2016

ACCEPTED ON: 27/10/2016

Reference to this paper should be made as follows:

Pragya Agarwal, Divya Jain (2016), "Contactless Payment System in India: A Study of Mobile Banking", *Int. J. of Trade and Commerce-IIARTC*, Vol. 5, No. 2, pp. 339-345

1. INTRODUCTION

Mobile banking is a system that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such as mobile phone or tablet.

The earliest mobile banking service was offered over SMS, a service known as SMS banking. With the introduction of smart phones with WAP support it is enabling the use of mobile web. In 1999, the first European banks started to offer mobile banking on this platform to their customers.

Mobile banking has until recent (2010) most often been performed via SMS or the mobile web. Apples initial success with i-phone and the rapid growth of phones based on Google's android (operating system) has led to increasing use of special client programs called apps, downloaded to the mobile device. With that afore said advancements in web technologies such as HTML5, CSS3 and Java Script have seen more banks launching mobile web based services to compliment native applications. A recent study (May 2012) by mapa research suggests that over a third of bank have mobile device detection upon visiting the bank's main website. A no. of things can happen on mobile detection such as redirecting to an app store, redirection to a mobile banking specific website or providing a menu of mobile banking options for the user to choose from.

2. DEFINITION

Mobile banking refers to the use of a Smartphone or other cellular device to perform banking tasks while away from your home computer, such as monitoring account balances, transferring funds between accounts, bill payment and locating an ATM.

Mobile Banking Services: Typical mobile banking services may include:

A. Account Information Services

- Mini-statements and checking of account history
- Alerts on account activity or passing of set thresholds
- Monitoring of term deposits
- Access to loan statements
- Access to card statements
- Mutual funds/ equity statements

B. Insurance Policy Management Services

- Fund transfers between the customer's linked accounts
- Paying third parties, including bill payments and third party fund transfers (see, e.g., FAST)
- Check remote deposits

C. Investments Services

- Portfolio management service
- Real-time stock quotes
- Personalized alerts and notifications on security prices.

D. Support Services

- Status of requests for credit, including mortgage approval, and insurance coverage
- Check (cheque) book and card requests
- Exchange of data messages and email, including complaint submission and tracking
- ATM Location

E. Content Services

- General information such as weather updates, news
- Loyalty-related offers
- Location-based services

3. REVIEW OF LITERATURE

Large numbers of studies have been conducted on the subject some of them are as under:

Priya, A.R., Shanmuga and Raj, R. Krishna (2015) investigated the perception of bank customers towards difficulties in adapting mobile banking technology and risk associated with it. In his view India has achieved higher growth in Information Technology (IT) and attained the category of country with higher percentage of young population. In spite of massive growth reported in IT sector, mobile banking technology has not created good impact among Indian population. The contribution of the research is drawing relationship of perceived risk factors on the usage of mobile banking. Banks should invest on educating the customers on mobile banking and rely on mobile banking benefit maximisation.

Aggarwal, Manav & Lamba, Bhuvan (2014) examined that the technology is the lifeline of today's life predominantly youth. They are very friendly with new technology particularly with mobile phones. Everyone has a mobile phone in his hands. So, it is not wrong to say that, the mobile banking is the banking of young operators. The emergence of mobile banking has implications for the more general set of discussions about mobile telephony in the developing world. It is well recognized that mobile phones have immense potential of conducting financial transactions thus leading the financial growth with lot of convenience and much reduced cost. Mobile Banking seems to possess the potential to become one of the widely spread and accepted application in the field of Mobile Commerce.

Goel, Nitin, Goel, Vikas Nath & Goel, Nancy (2014) the main issue of their study is to understand the factors which contribute to user's intention to use the mobile banking services instead of branch and internet banking. The main purpose of this review paper is to explore the factors that influence the adoption behaviour of mobile banking services by Indian consumers. They have also discussed the various steps that mobile banking providers should take to increase their mobile banking services user's database.

Gupta, Vinod, Kumar., et al (2013) in this paper researchers identified and investigated the factors which influence customers decision to use a specific form of mobile banking, and specifically focuses on the evaluation of SMS-based mobile banking in India.

Kaur, Jasdeep & Madan, Pragya (2013) examined that mobile banking has created new, convenient communication and fast financial transactional channels for mobile users which is accessible from anywhere, anytime. But to reap the associated benefits of this new age banking there are some issues like network coverage, security issues, customer awareness, etc. which need to be improved.

Sharma, Prerna, Bamoriya & Singh, Preeti (2012) their research focuses on the barriers in adoption of mobile banking. It further focuses on preferred services by the mobile banking customers and influence of demographic variable on mobile banking service adoption. A cross section moment co-relation, one way Kolmogorov-Smirnov test and Frequency analysis have been applied to find the inferences.

Sharma, Archana & Kansal Vinit (2012) examined consumer adoption of a new electronic payment service as mobile banking and the factors influencing the adoption of mobile banking in India.

Ali, Alsoufy & Ali, Hayat (2011) this paper aims at extending the Technology Adoption Model (TAM) to incorporate the role of factors in influencing customer's perception towards mobile banking adoption. Furthermore, the extended TAM model was evaluated empirically to measure its impact on M-banking adoption in Bahrain.

Uppal, R.K., (2010) studies the extent of mobile banking in Indian banking industry during 2000-2007. The study concludes that among all e-channels, ATM is the most effective while mobile banking does not hold a strong position in public and old private sector but in new private sector banks and foreign banks m-banking is good enough with nearly 50% average branches providing m-banking services. M-banking customers are also the highest in e-banks which have positive impact on net profits and business per employee of these banks. Among all, foreign banks are on the top position followed by new private sector banks in providing m-banking services and their efficiency is also much higher as compared to other groups. The study also suggests some strategies to improve m-banking services.

Panjwani, Saurabh & Cutrell, Edward (2010) this paper explores user authentication schemes for banking systems implemented over mobile phone networks in the developing world. We analyze an authentication scheme currently deployed by an Indian mobile banking service provider which uses a combination of PINs and printed codebooks for authenticating users. As a first step, we report security weaknesses in that scheme and show that it is susceptible to easy and efficient PIN recovery attacks. We then propose a new scheme which offers better secrecy of PINs, while still maintaining the simplicity and scalability advantages of the original scheme. Finally, we investigate the usability of the two schemes with a sample of 34 current and potential customers of the banking system. Our findings suggest that the new scheme is more efficient, less susceptible to human error and better preferred by the target consumers.

Rao & Prathima (2003) finds that there is huge potential of Mobile banking in India but Indian banks offering banking services still have a long way to go.

Objectives of the Study: following are the objectives of paper:

1. Identify factors influencing the adoption and usage of Mobile banking in India.
2. To study the barriers in using Mobile banking services.

4. RESEARCH METHODOLOGY

Area of Investigation: North India

4.1 Sampling

- Method of sampling: Convenience Sampling
- Sample size: 100 mobile banking users

4.2 Data Collection

- Data: Primary Data
- Method of collection: Direct Personal Interview

4.3 Tools and Techniques of Data Analysis: The following tools have been used:

- Descriptive statistics



- Percentage analysis
- χ^2 - test

Q1. What type of transaction you are performing through mobile?

Table 1: Transactions That Are Performed Through Mobile

S.No.	Response	No. of respondents	Percentage
A	airtime recharge	25	25%
B	fund transfer	10	10%
C	Savings	20	20%
D	Purchasing	35	35%
E	any other periodical payment	10	10%

Source: Compiled through questionnaire

H₀: There is no significant difference in the transactions performed by mobile banking users.

S. No.	Observed frequency	Expected frequency	(O _i - E _i)	(O _i - E _i) ²	(O _i -E _i) ² / E _i
1	25	20	5	25	1.25
2	10	20	-10	100	5
3	20	20	0	0	0
4	35	20	15	225	11.25
5	10	20	-10	100	5
n= 5					Total = 22.5

Degree of freedom = (n-1) (5-1) = 4

The table value of χ^2 for 4 degree of freedom at 5 per cent level of significance is 9.488.

Hence, χ^2 calculated > χ^2 table value So, null hypothesis is rejected.

The 1 table depicts that 25 people perform airtime recharge, 10 people are used to transfer of funds, 20 people are used to savings, 35 people are used to do purchasing, and 10 people are used to do other periodical payments through their mobile. Customers are using mobile banking for multiple purposes.

Q2. How often do you make transactions?

Table 2: Frequency of Making Transaction

S.No.	Response	No. of respondent	Percentage
A	Daily-Once	2	2%
B	Daily-Several Times	2	2%
C	Weekly-Once	10	10%
D	Weekly-Several Times	15	15%
E	Monthly-Once	46	46%
F	Monthly-Several Times	15	15%
G	Occasionally (Less Than Once A Month)	10	10%

Source: Compiled through questionnaire

The table 2 portrays that 2 people perform transactions daily-once, 2 people perform transactions daily-several times, 10 people perform transactions weekly-once, 15 people weekly-several times,

46 people performs monthly once, 15 people monthly-several times and 10 people perform transactions occasionally (less than once a month) through their mobile. With Mean value 14.285 and standard deviation is 14.974.

Q3. What type of bills do you pay on your mobile phone?

Table 3: Type of bills mobile banking users pay by their mobile phones

S. No.	Response	No. Of respondents	Percentage
A	Mobile Phone Bills	33	33%
B	Utility (Electricity, Water)	25	25%
C	School Fees	0	0%
D	Goods For Home	32	32%
E	Goods For Work	5	5%
F	Others	5	5%

The table 3 shows that 33 mobile banking users pay mobile phone bills, 25 users pay bills for utility services like electricity, water, no one pay school fees through mobile banking, 32 people pay bills for purchasing goods for home, 5 for goods for work, and 5 for others.

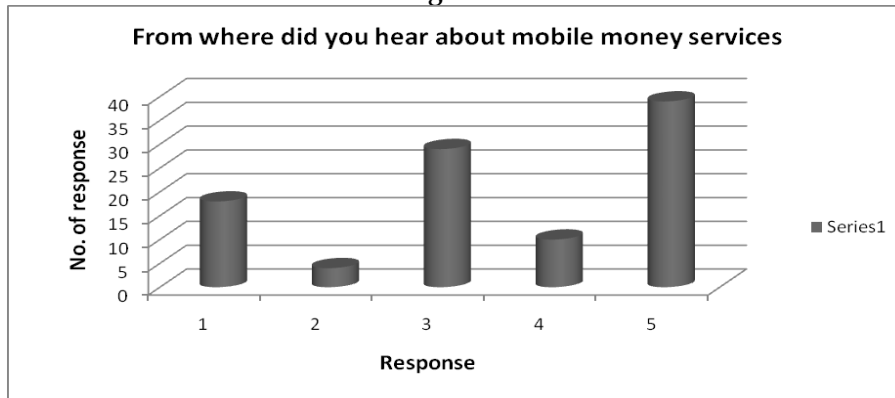
Q4. Where did you hear about mobile money services?

Table 4: From where did you hear about mobile money services

S. No.	Response	No. of Respondents	Percentage
A	Mass Media	18	18%
B	An Agent	4	4%
C	Bank Directly	29	29%
D	SMS From Mobile Operator	10	10%
E	Friends Or Family	39	39%

Source: Compiled through questionnaire

Figure: 1



The table 4 demonstrate that 18 mobile banking users hear about mobile money services through mass media, 4 people hear about these services through an agent, 29 people hear directly through bank, 10 people hear though SMS from their mobile operator, 39 people hear from their friends and family.

5. CONCLUSION

Mobile banking is growing with rapid speed in the nation but one of the major hurdles to overcome for successful consumer acceptance of mobile banking is financial systems security. The mobile banking is more convenient in comparison to other banking modes. Poor acceptance of mobile banking has been observed amongst the rural customers they must be made to understand the system and explain its safety and make them overcome their fear. If this is done in future there is a possibility the usage of Mobile Banking will go up in the rural areas. 4G will boost up the speed of mobile banking.

REFERENCES

- [1]. Priya, A.R., Shanmuga and Raj, R. Krishna (2015). 'Effect of Risk Factors in the Penetration of Mobile Banking in India-an Empirical Study' *Middle-East Journal of Scientific Research* Vol-23 (11). PP- 2633-2638, 2015.
- [2]. S.Yang. (2009). "Exploring adoption difficulties in mobile banking services," *Canadian Journal of Administrative Sciences*, Vol. 26, No. 2; pp. 136-149.
- [3]. Uppal, R.K. (2011). "e-Age Technology- New Face of Indian Banking Industry: Emerging Challenges and New Potentials", *Journal of Social and Development Sciences*, Vol. 1, No.3.
- [4]. AL-Majali, M., & Mat, N. K. (2011). Modelling the antecedents of internet banking service adoption (IBSA) in Jordan: A Structural Equation Modelling (SEM) approach. *Journal of Internet Banking and Commerce*, 1-16.
- [5]. Rao, G. R., & Prathima, K. (2003). Online banking in India. Mondaq Business Briefing, 11 April 2003.
- [6]. Gupta, Vinod, Kumar, et al (2013). Mobile Banking Technology as adoption and Challenge' *International Journal of Scientific and Research Publications*, Volume 3, Issue 1, January 2013
- [7]. Sharma, Purna, Bamoriya & Singh, Preeti (2012) 'Mobile Banking in India: Barriers In Adoption and Service Preferences' *A Journal of Management* ISSN :2278-6120, Volume 5, No. 1, June-2012, pp 1-7
- [8]. Aggarwal, Manav & Lamba, Bhuvan (2014). 'New Era of Technology: Mobile Banking' *GRA- Global Research Analysis*, Vol- 03 Issue-04 April 2014
- [9]. Goel, Nitin, Goel, Vikas Nath & Goel, Nancy (2014) 'A Study of Adoption Behaviour Of Mobile Banking Services By Indian Consumers' *International Journal of Research in Enggi. & Technology* Vol.- 2 Issue-3 March 2013
- [10]. Kaur, Jasdeep & Madan, Pragya (2013). 'Mobile Banking' *GRA- Global Research Analysis* , Vol-2 Issue -11 Nov 2013
- [11]. Sharma, Archana. , Kansal, Vineet. (2012). "Mobile Banking as Technology Adoption and Challenges: A Case of M -Banking in India" *IJBS* Vol.2 Issue 2 pp -1 -5.
- [12]. Ali, Alsoufy & Ali, Hayat (2011). 'Customers' Perception of M-Banking Adoption In Kingdom Of Bahrain: An Empirical Assessment Of An Extended Tam Model' *International Journal of Managing Information Technology (IJMIT)* Vol.6, No.1, February 2011
- [13]. Panjwani, Saurabh, Uppal, Abhinav, Cutrell, Edward (2011). Script-agnostic reflow of text in document images. In: Proceedings of 13th Conference on Human-computer interaction with mobile devices and services , 2011, . pp. 299-302. <http://dx.doi.org/10.1145/2037373.2037419>