

Full Length Research Paper

An evaluation on the extent of mobile banking in Indian banking industry

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Accepted 20 January, 2017

In present day banking, total automation of banking operations is an imperative need for all banks to attract more customers, provide efficient services, and survive in the emerging new competition, apart from the profit motive which is the primary objective of the business. In order to achieve these goals of business, various channels have been developed through technology. 'Mobile banking' is one of the best alternative channels available to customers for quick, correct and efficient service at anytime and anywhere. The present paper is devoted to explore the extent of mobile banking in Indian banking industry where cell phone users are increasing at unexpected rate. Time period taken for study is 2000 - 2001 to 2006 - 2007 because this period is the eye-witness of infant condition of IT and during the same period IT became mature. Simple statistical tools like average, standard deviation, co-efficient of variation are used to calculate the efficiency of various bank groups providing the service of M-banking. On the basis of analysis, the paper concludes that the private sector banks are on the top in providing the M-banking services to their customers and have high profitability as compared to other bank groups under study except foreign banks. The paper also highlights the benefits of M-banking to customers as well as to bankers and suggests some strategies with their possible solutions like to spread awareness regarding M-banking and to increase its area and scope to enhance M-banking services in India, particularly in rural and semi-urban areas..

Key words: Extent of mobile banking, strategies to enhance M-banking services.

INTRODUCTION

Path breaking changes have taken place in the banking sector in previous years. The ongoing liberalization has increased "threat of entry" by plogers from across the globe while intensifying the rivalry between existing competitors. The technological advances have opened a new front by "quasi-banks". Mobile banking has been study but constantly gaining ground. The public perception of mobile financial services (MFS) has undergone a positive change in past few years. This shift can be traced back to the increased need for mobility and to technological advances in the telecommunication sector. Successful MFS offers enable business advantages but they also pose certain dilemmas e.g. the choice of a suitable technical solution. M-banking solutions so far, however have failed to generate the land of customer response which was expected of them.

BENEFITS OF MOBILE BANKING TO CUSTOMERS AND TO BANKERS

To customers

- Customers need not stand in the bank counters/front offices for various enquiries about his account.
- Customer can save his valuable time in banking transactions and save in travel cost reaching the bank branch etc.
- It is a mobile banking to have information of all the 365 days at anytime anywhere about his account.
- Customer can pay his utility bills in time and save paying penalties, since alerts are received from the bank.
- Cheque book requests can be made sitting in his work place.

To bankers

- M-banking helps banks in saving crores of rupees by way of reduced transaction costs. Govt. incurs a cost of Rs. 12-13 for every Rs.100. Mobile banking helps it reduce the cost to a mere Rs.2.
- Banks can utilize the time saved for expansion of business, marketing and sales activities by channel migration of customers to mobile banking.
- Banks can take advantage of profits by way of commission for cellular companies by selling prepaid talk time through ATMs.
- Banks providing mobile banking service can have competitive advantage on those banks, which are not providing this service.

REVIEW OF LITERATURE

Avasthi and Sharma (2000 - 2001) have analyzed in their study that advances in technology are set to change the face of banking business. Technology has transformed the delivery channels by banks in retail banking. It has also impacted the markets of banks. The study also explored the challenges that banking industry and its regulator face.

Janki (2002) analyzed that how technology is affecting the employees' productivity. There is no doubt, in India particularly public sector banks will need to use technology to improve operating efficiency and customer services. The focus on technology will increase like never before to add value to customer services, develop new products, strengthen risk management etc. the study concludes that technology is the only tool to achieve their goals.

Bhasin (2001) analyzed the impact of IT on banking sector. It has transformed the repetitive and overlapping systems and procedures into simple single key pressing technology resulting in speed, accuracy and efficiency of conducting business and enabling them to enter into the new activities.

Husain (1988) also highlighted the importance of IT in various sectors. In the introduction of any new technology or system various organizational, financial and functional problems are faced in the initial stages. People are generally reluctant to accept new system, howsoever beneficial it may be. Such various issues, which are involved in computerization, have been critically and vividly discussed.

Pathrose (2001), banking the world over is undergoing a rapid and radical transformation due to the all-pervasive influence of IT and breath taking developments in the technology of telecommunications and electronic data processing. The winds of change are blowing in India too. The IT which implies the integration of information system with communication technology has radically altered the traditional ways of doing banking business and allowed banks to wipe out the difference in

time as well as distance .It is in this context his article attempts to trace the present status of hi- tech banking in India, visualize its prospects and look at the challenges and problems in the tracks to be traversed. He concludes that in the scenario of severe competition and escalating expectation of customers for newer products and alternative delivery channels, the contours of banking are being redefined. The key to survival of banks therefore is retention of customer's loyalty by providing them with value added services tailored to their needs, using state-of- the-art IT. There is no way a bank can remain lukewarm to hi-tech and yet hope to grow. It is a choice between survival and extinction.

Rao (2002) analyzed the impact of new technology on banking sector. The technology is changing the way the business is done and opened new vistas for doing the same work differently in most cost effective manner. Tele-banking and internet banking are making forays such that branch banking may give to home banking. He provided some policies to protect their profitability.

Shastri (2001) analyzed the effect and challenges of new technology for banks. Technology has brought a sea change in the functioning of the banks. The earlier manual system of preparing of vouchers, etc. is slowing being automated thereby saving a lot of time and effort. The use of ATMs and introduction of more than in the past, especially in the post-VRS scenario.

Saxena (2000) also analyzed the importance of IT in the banking sector. According to him, the future promises to be even more exciting, interesting and challenging. The internet has enables us to talk to each customer as an individual, with different needs and requirements. This IT will affect the productivity and profitability of the banks.

Vageesh (2000) highly appreciated the new private sector banks which have adopted IT. The new private sector banks with their state-of- the-art technology and grandiose plans to make inroads into e- banking are now darlings of the stock markets. Banks like HDFC and ICICI are foraying into net banking offering great convenience to customers on one hand and results in lower transaction cost for the banks on the other hand.

Research gap

The review of mentioned studies clearly indicates that no comprehensive study has been undertaken regarding the extent of mobile banking among various e-channels and the extent of mobile banking using customers in India. Therefore, the present study is devoted to fulfill this gap and also to analyze the profit and business per employee of those bank groups providing more services through mobile banking.

OBJECTIVES, RESEARCH METHODOLOGY AND DATA BASE

Objectives

- To explore the extent of mobile banking among various e-

Table 1. (G-I) Position of M-banking among various e-channels (Percent).

E-Delivery channel	2000 - 2001	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07	Average
Computerized branches	93.29	93.80	94.34	94.31	93.98	99.13	100	95.55
ATM	23.01	30.89	34.87	36.55	37.76	39.09	45.90	35.43
I-banking	11.80	16.25	23.08	32.27	35.08	40.37	51.44	30.04
M-banking	7.37	8.82	10.64	12.42	19.53	17.53	25.89	14.6
T-banking	3.69	4.41	6.68	9.50	12.30	13.62	19.38	9.94
Average	27.38	30.83	33.92	37.01	39.73	41.94	48.52	35.11

Source: Information collected from head offices.

channels.

- To know the extent of M-banking using customers in various bank groups.

- To make strategies to enhance M-banking services in India.

Research methodology

The research design of the paper is related to e-technology in Indian banking sector. The present paper focuses on M-banking services of various bank groups. The whole banking industry makes the universe of the study excluding RRB's and Co-operative banks Indian banking industry has been divided into five groups as per the RBI guidelines.

G-I – SBI and associate banks (8)

G-II – Other nationalized banks (20)

G-III – Old private sector banks (17)

G-IV – New private sector banks (8)

G-V – Foreign banks (29)

We have deliberately taken the period in the post IT Act of 2000 because after this period e-technology became mature in India. The study relates with the time period of 2000 to 2007. Some statistical tools like Mean, S.D, C.V, has been calculated to compare the various results and to get the desired results.

Data base

1. Report on Trend and Progress, RBI, 2006 - 2007.
2. IBA, Performance Highlights 2000 - 2006.
3. Information collected from the head offices of many banks.

RESULTS AND DISCUSSION

To know the extent of M-banking in Indian banking industry, it is imperative to know the extent of branches of different bank groups providing the service of mobile banking and the extent of customers availing this facility. Tables 1 - 5 show the extent of branches providing the facility of M-banking for different bank groups differently. These tables also show the position of M-banking among different e-channels.

Position of M-banking among various e-channels (G-I)

Table 1 shows the position of M-banking among different e-channels in G-I. It is clear that G-I has 95.55 PC computerized branches. After that comes the number of branches providing the facility of ATMs and Internet banking. Their average percentage is 35.43 and 30.04 respectively. G-I has only 14.6 pc branches providing the facility of M-banking.

Position of M-banking among various e-channels (G-II)

In case of G- II, results are more depressing. It has only 8.55 percent branches providing the service of mobile banking. Although, internet- and tele-banking have even less branches than M-banking but this statistics are not satisfactory for a country like India where 98% of population is availing the facility of mobile phones (Table 2).

Position of M-banking among various e-channels (G-III)

In case of G-III also, position of M-banking is not satisfactory. It has only 13.27 PC mobile banking branches. Computerized and ATM branches are comparatively on better position (Table 3).

Position of M-banking among various e-channels (G-IV)

In case of G-IV, the position of all e-channels is quite satisfactory. All branches of G -IV are fully computerized and 72.75 PC branches are providing the facility of Internet banking. After that comes the number of ATM branches. G-IV has 66.43 PC mobile banking branches which is relatively satisfactory as compared with other bank groups (Table 4).

Table 2. (G-II) Position of M-banking among various e-channels (Percent).

E-delivery channel	2000 - 2001	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07	Average
Computerized branches	30.52	47.90	63.72	73.41	87.04	92.94	92.91	69.77
ATM	10.07	11.29	11.78	12.58	14.06	19.40	25.47	14.95
I-banking	1.55	1.94	2.74	4.21	5.01	6.65	8.40	4.35
M-banking	1.86	2.19	3.35	8.70	10.05	15.23	18.53	8.55
T-banking	0.94	1.37	2.96	3.53	3.86	6.10	11.40	4.30
Average	8.98	12.93	16.91	20.48	24.00	28.06	31.34	20.38

Source: Information collected from head offices.

Table 3. (G-III) Position of M-banking among various e-channels.

E-delivery channel	2000 - 2001	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07	Average
Computerized branches	19.69	23.15	46.31	48.59	67.21	71.09	73.19	49.89
ATM	11.81	16.42	22.39	22.67	27.35	62.36	75.41	34.05
I-banking	6.25	7.98	15.05	15.60	17.68	20.71	23.93	15.31
M-banking	6.91	7.17	12.55	13.57	13.44	17.79	21.52	13.27
T-banking	5.74	8.83	10.90	11.44	13.31	18.47	20.64	12.76
Average	10.08	12.71	21.44	22.37	27.79	38.08	42.93	25.05

Source: Information collected from head offices.

Table 4. (G-IV) Position of M-banking among various e-channels.

E-delivery channel	2000 - 2001	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07	Average
Computerized branches	100	100	100	100	100	100	100	100
ATM	40.66	42.51	58.58	51.65	81.84	89.03	83.60	63.98
I-banking	74.16	72.97	80.80	77.96	62.87	74.22	66.27	72.75
M-banking	64.59	69.63	72.72	71.21	56.59	69.26	61.04	66.43
T-banking	38.27	46.25	65.85	57.57	49.74	41.92	39.25	48.40
Average	63.53	66.27	75.59	71.67	70.20	74.88	70.03	70.31

Source: Information collected from head offices.

Table 5. (G-V) Position of M-banking among various e-channels.

E-delivery channel	2000 - 2001	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07	Average
Computerized branches	100	100	100	100	100	100	100	100
ATM	132.85	130.61	217.22	188.94	294.32	169.63	202.42	190.85
I-banking	42.14	45.57	47.22	41.93	78.01	47.98	48.98	50.17
M-banking	40.71	40.13	45.00	44.23	75.88	46.96	50.20	49.01
T-banking	42.14	45.57	43.88	40.09	63.82	44.53	59.91	48.56
Average	71.56	72.37	90.66	83.03	122.40	81.69	92.30	87.71

Source: Information collected from head offices.

Position of M-banking among various e-channels (G-V)

Although, G-V has less number of mobile banking branches than G-IV but the comparative position of it in G-V is better. It has 49.01 PC branches providing the facility of mobile banking (Table 5).

Comparative position of mobile banking among various bank groups

Table 6 highlights the comparative position of mobile banking among different bank groups. It shows that G-IV is on the top position in providing the M-banking service to their customers. It has 66.43 pc mobile banking bran-

Table 6. Comparison of bank groups providing M-banking services.

E-delivery channel	G-I	G-II	G-III	G-IV	G-IV
Computerized branches	95.55	69.77	49.89	100	100
ATM	35.43	14.95	34.05	63.98	190.85
I-banking	30.04	4.35	15.31	72.75	50.17
M-banking	14.6	8.55	13.27	66.43	49.01
T-banking	9.94	4.30	12.76	48.40	48.56
Overall Average	35.11	20.38	25.05	70.31	87.71

Source: Information collected from head offices.

Table 7. Customer using of M-banking service.

Bank group	2000 - 2001	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07
G-I	39171	59716	87477	187541	324175	459646	866677
G-II	16861	28630	39431	81427	188947	325301	463141
G-III	1621	8736	20693	24587	57119	79417	99431
G-IV	69441	101213	531449	867514	1810901	3865719	4993811
G-V	31631	47771	77877	105431	256063	391013	1056065

Source: Information collected from head offices.

ches. G-V is on the second position and it has 49.01 pc branches providing M- banking facility. SBI group (G-I) and old private sector banks (G-III) have almost same number of branches providing M-banking facility as is indicated in table. Only 8.55 PC branches of nationalized banks (G-II) are proving the same service and in this term, this group has gained last position.

Extent of mobile banking using customers

Table 7 shows the number of customers of different bank groups availing the service of mobile banking in different years. It is clear from table that G- IV holds strong position among different bank groups. It has 49, 93,811 customers in the year 2006 - 2007 availing the facility of M-banking. In terms of number of customers using M-banking services, G- V and G-I gained second and third position respectively. They have 10,56,065 and 8,66,677 mobile banking users correspondingly. Compare to these three bank groups G-II and G-III have very less M-banking customers and they are 463141 and 99431 respectively. In all the bank groups customers of M-banking are increasing year by year this indicates the increasing popularity of M-banking.

Net profit as a percentage of working funds

All the bank groups under study, more or less, are providing M-banking service to their customers. Among these bank groups, G- V and G -IV have maximum net profit as percentage of working funds. On an average, their net profit as percentage of working funds is 1.19 and

1.01 respectively. While G-III and G-I have gained next two positions. In case of G-II, net profit as percentage of working funds is only 0.79 PC.

Business per employee of various bank groups

Table 8 indicates the business per employee of different bank groups under study providing the service of mobile banking. The study reveals that foreign bank groups have maximum average of business per employee as compare to other bank groups. Foreign banks are more benefited than other bank groups. G-III and G- IV have almost same average of business per employee as shown in tables. But on the other hand, public sector banks have very low average. Co-efficient of variation reveals that maximum variations found in G-I, G-II and G-V while least in G-III and G-IV (Table 9).

Profit per employee of various bank groups

Table 10 shows the profit per employee of those bank groups providing the facility of m-banking to their customers. It is clear from table that G-V (9.67 pc) has maximum average of profit per employee followed by G-IV (7.42). In this respect, G-II gained the third and G -III gained the fourth position respectively. Their average of profit per employee is 2.48 and 1.77 pc respectively. Co-efficient of variation reveals that the maximum variations found in G-II and G-V and comparatively less in other bank groups.

Though, after so many years of the enactment of the IT Act, mobile banking has not gained satisfactory position

Table 8. Net profits as a percentage of working funds (Percent).

Years	G-I	G-II	G-III	G-IV	G-V
2000 - 01	0.42	0.62	0.81	-0.72	0.71
2001 - 02	0.72	1.08	0.41	0.13	0.13
2002 - 03	0.96	1.17	0.90	1.57	1.56
2003 - 04	1.12	1.16	1.22	1.65	1.64
2004 - 05	0.89	0.22	1.13	1.30	1.29
2005 - 06	0.83	0.54	0.99	1.52	1.52
2006 - 07	0.85	0.76	0.92	1.65	1.47
Average	0.75	0.75	0.99	1.03	1.15
S.D.	0.22	0.31	0.30	0.76	0.46
C.V. (%)	29.33	41.33	30.30	73.78	40.00

Source: Performance highlights; various issues, 1997 to 2007, IBA Mumbai.

Table 9. Comparative performance of business per employee in various bank groups (Percent).

Years	G-I	G-II	G-III	G-IV	G-V
2000 - 01	1.60	2.00	7.46	9.03	159.93
2001 - 02	1.91	2.24	8.96	10.07	197.59
2002 - 03	2.15	2.99	10.94	10.31	221.90
2003 - 04	2.47	3.17	8.73	9.57	850.25
2004 - 05	3.06	3.55	8.75	9.40	307.62
2005 - 06	3.69	4.23	9.02	10.08	374.54
2006 - 07	4.61	4.96	8.11	9.95	434.05
Average	2.78	3.31	8.85	9.77	363.69
S.D.	1.07	1.05	1.07	0.45	235.99
C.V. (%)	38.48	31.72	12.09	4.60	64.88

Source: Performance highlights; Various issues, 1997 to 2007, IBA Mumbai.

yet increasing number of M-banking using customers indicates the comparative popularity of it among various e-channels. Among various bank groups, new private sector banks and foreign banks are on the top position in providing more mobile banking services and their efficiency is also high as compared to other bank groups.

EMERGING ISSUES

New techniques brings with it some issues, if these issues are resolved efficiently then that technology can prove boon for that area. M-banking is not an exception. It has also bring with it some issues, like awareness regarding M-banking, covering rural and semi-urban area under M-banking, widening the scope of M-banking, transparency and security. These issues must be tackled very carefully and wisely to compete in the emerging global order.

STRATEGIES WITH THEIR POSSIBLE SOLUTIONS TO MAKE M-BANKING MORE POPULAR

Awareness regarding M-banking

As cell phone users in India are increasing at unexpected rate, M-banking has greater scope. Therefore, it is imperative that more customers should be made aware of this service.

Possible solutions

- Banks should provide operational knowledge of M-banking with each their functions through SMS, WAP and IVR separately.
- Banks should arrange demo-fares or provide information to customers at counters.
- Posters consisting list of services provided by mobile

Table 10. Comparative performance of profit per employee in various bank groups (Percent).

Years	G-I	G-II	G-III	G-IV	G-V
2000 - 01	0.77	0.41	0.94	5.12	-6.33
2001 - 02	1.21	1.03	1.83	3.88	1.23
2002 - 03	1.59	1.65	2.62	9.19	15.50
2003 - 04	2.00	7.65	2.76	9.59	15.29
2004 - 05	2.04	2.03	0.57	8.27	11.63
2005 - 06	2.20	2.22	1.61	7.13	14.63
2006 - 07	2.22	2.40	2.09	8.77	15.74
Average	1.72	2.48	1.77	7.42	9.67
S.D.	0.55	2.38	0.81	2.17	8.74
C.V. (%)	31.98	95.98	45.76	29.25	90.38

Source: Performance highlights; various issues, 1997 to 2007, IBA Mumbai.

banking should be displayed at appropriate places.

Rural and semi-urban sector

More than 60 pc of Indian population resides in rural areas. Therefore, it is need of the hour to capture this market through e-delivery channels. M-banking is the best alternative method in this direction. Hence, banks should make M-banking popular in rural and semi-urban areas too.

Possible solution

Banks and Cellular service providers should tie-up in this direction and try to provide mobile banking facility to rural population free of cost (E.g. Bharti Airtel is in process of tying up with two leading banks to extend its mobile remittance services to rural areas).

Wider scope of mobile banking

The banks should make the area of mobile-banking wider by adding some more banking facilities. This will further strengthen the popularity of M-banking and help to earn more income.

Possible solution

Banks should allow the cash transactions of small amount (upto 5000) through M-banking.

Transparency

The banks should disclose the full information regarding service charges, service tax, interest, penalty if any, etc. to the customers to win their confidence.

Improvement of HRD systems

The employees of e-banks should be given training to match their skill with the requirements of changing environment. They should at least make them aware of all the schemes provided by the banks.

Possible solutions

- Banks should conduct training to train their staff regarding 'how to use various e-channels' and update their knowledge time to time.
- Arrangements should be made to take regular test of their employees (particularly Customer Care Executives) to test their knowledge.

INFERENCE

The main inference of the study is that although mobile banking has wider scope in Indian market but still it has not achieved satisfactory position. To make mobile banking more popular, combined efforts by the banks and cellular service providers are required to a large extent. The study can prove beneficial for banking industry as well as for other business institutions which can use mobiles to boost their revenues.

Conclusion

With the rapid development of transport and communication, people and services are coming together as if they were just around the corner. If this is the case for many services, then why should the banking industry lag behind?

E- channels enable the banks to be better connected with the customers and vice versa. A customer who is provided with a variety of additional services feels appreciated and is more likely to be loyal to that bank,

which is always a good sign for a bank.

In the end mobile banking not only helps a bank to reduce costs but also helps it to retain its valuable customers. And as far as customers are concerned, this facility enables the customer to bank anywhere, at anytime and in any condition, definitely a boon if a customer is stuck in the middle of nowhere and requires banking services as soon as possible.

Thus mobile banking helps both, the customer as well as the bank, to lighten the burden of today's world and to save time, money and energy which is greatly required and appreciated.

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