
ANALYSIS OF PERCEPTION OF THE CUSTOMERS TOWARDS DIGITIZATION OF BANKING SECTOR

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Abstract: *The banking industry is going through an incredible revolutionary phase. Technology offers banking clients greater access to information than ever before and compelled financial players to offer new digital services. Most importantly, digital technology throws up opportunities to encourage innovations in the banking sector from cash to electronic modes of payment. Uses of digital channels like mobile banking can reduce transaction costs and leads to increase revenue, enhance customer experience. This research paper examines the factors affecting customer perception on digitization of banking sector by using mobile banking. The survey has been conducted at Navi Mumbai city. Data has been analyzed using factor analysis, ANOVA and t-test. The study found that factors like compatibility and security/privacy significantly impact the customers' perception in usage of mobile banking. It is revealed from the present study that factors like potential benefits, security, and compatibility highly influence the usage of mobile banking. Hence to increase the penetration of mobile banking in India more emphasis should be given on improving infrastructure facilities and awareness about the mobile banking. At the same time ensuring customer protection are necessary to accelerate the financial inclusion through m-banking.*

Keywords: *Customer perception, Digitization, Mobile banking.*

INTRODUCTION

The banking industry has significant contribution in the development of any economy especially in the India. There are a number of factors that may result in a customer satisfaction such as digitalization of banking services which provides convenience to customers and helps in saving time. Digitalization reduces human error and thus builds customer loyalty. Digitalization has also benefitted customers by facilitating cashless transactions. Customers need not store cash anymore and can make transactions at any place and time. Indian Government is aggressively

promoting digital transactions. The launch of United Payments Interface (UPI) and Bharat Interface for Money (BHIM) is significant steps for innovation in the digitization drive in India. UPI is a mobile interface where people can make instant funds transfer between accounts in different banks on the basis of virtual address without mentioning the bank account.

Digitalization through mobile banking has resulted in cost savings, time savings and improved services. Technology has become a major driver in transformation of the Indian banking sector moving towards hassle-free and cashless transactions. Recently there has been massive growth registered in the number of transactions done through mobile devices. Many studies showed that customers perceive the service provided from banking as an improvement over that offered by other channels of delivery.

To remain competitive has to identify changing customers' preferences and meet them with the adoption of new technology through digitization of its services. Hence this paper is studies customer perception on digitization of banking sector which will importance to practitioners to enhance customer satisfaction towards banks.

LITERATURE REVIEW

Banking sector has undergone a change from one of the more inter-mediator to that of provider of quick and cost effective and efficient services Bhide et al. (2002). According to Owusu-Frimpong (1999) financial services are characterized by high levels of credence and experiential features, therefore, making them difficult to be evaluated before consumption. Unnithan and Swatman (2001) studied the drivers for change in the evolution of the banking sector, and the move towards electronic banking including mobile banking by focusing on two economies, Australia and India, suggested strong growth potential of new banking channel in India. Bharadwaj and Sawy (2013) found in their studies that the combination of information, computing, communication and connectivity technologies affect especially IT intensive industries like the financial service industry.

However according to Barnes and Corbett (2003) recent innovations in telecommunications have enabled the launch of new access methods for banking services. Tallon (2010) found in his study that support for the banks' desire to become more intimate with their customers i.e. the strategic

move from operational excellence to customer intimacy. Setia et.al (2013) examine the impact of digital technologies on the customer service performance. They study the local Indian banking sector and introduce a theory to “understand the effectiveness of a customer side digital business strategy focused on localized dynamics. According to S. Karnouskos (2004) despite ongoing efforts by key players such as banks, mobile network operators and mobile payment service providers (MPSP) in promoting and offering mobile payment options, absence of widespread customer acceptance of this innovation have resulted in a lag in the adoption of mobile payments as an alternative form of payment mechanism. Sharma and Singh (2009) found that Indian mobile banking users are specially concern with security issues like financial frauds, account misuse and user friendliness issue - difficulty in remembering the different codes for different types of transaction, application software installation & updating due to lack of standardization.

It is found that very few studies dealing with relative importance of the factors determining customer perception towards the usage of mobile banking. Therefore, more research work is required in this area to provide the needful information and enhance understanding of customer perception for banking services and customer expectations towards banks.

RESEARCH METHODOLOGY

Objectives:

- To study growth of digitization in banking
- To analyze factors influencing the usage of Mobile banking
- To understand perception of customers towards usage of Mobile banking

Methodology:

This study involves 100 respondents from Navi –Mumbai city in Maharashtra state of India. The convenience sampling technique was used and data has been collected from primary as well as secondary data. Primary data was collected through questionnaires. A Likert-type instrument with 5-point rating scale was used to measure the respondents' perception with regards to usage of mobile banking services. The responses to the different questions have been represented using descriptive statistics to the variable under investigation. The secondary data were taken from the

journals, books, articles various websites etc. Factor analysis has been done to sum up the different factors that are considered important in usage of mobile banking services. ANOVA and t-test has been used to determine if there are significant differences in the mean scores for demographic factors such as income, gender and age.

Hypothesis:

Following Hypothesis are tested to determine perception of respondents towards usage of mobile banking.

H₀: There is no significant difference in mean on perception of male and female respondents towards usage of Mobile banking

H₁: There is significant difference in mean on perception of male and female respondents towards usage of Mobile banking

H₀: There is no significant difference in mean on perception of younger and older respondents towards usage of Mobile banking

H₁: There is significant difference in mean on perception of younger and older respondents towards usage of Mobile banking

H₀: There is no significant difference in mean on perception of respondents on account of income towards usage of Mobile banking

H₁: There is significant difference in mean on perception of respondents on account of income towards usage of Mobile banking

Results and Discussions:

The data has been analyzed using descriptive statistics. Out of 100 respondents 62 were male respondents which is 62 % and 38 were female respondents which is 38%. Most of the respondents are from age group 20-30 which is 62 %. Majority of respondents are from income group 2-5 lacs which is 44%. 98% of respondents are aware of mobile banking. 46% respondents are graduate and their occupation is service which is 45%. Results also shows that mobile banking mostly used for getting balance query 30%, payment of bills 25%, online shopping 21%, fund transfer 14%.

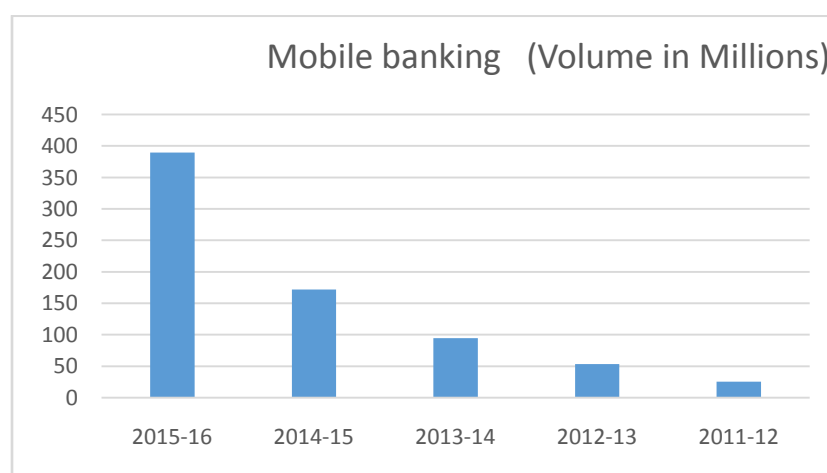
A) Growth of digitization in banking industry:

Nowadays banks intend to offer speedy, accurate and quality banking services to their clients through digitization. Banks have benefitted in several ways by adopting newer technologies. According to the RBI Report in 2016-17 there are 2, 22,475 Automated Teller Machines (ATMs). The value of transactions through PPI Cards and mobile wallets have increased drastically from Rs.105 billion and Rs. 82 billion respectively in 2014-15 to Rs. 277 billion and Rs. 532 billion respectively in 2016-17 as shown in Table no. 1.

Growth of digitization in banking industry (Table no. 1)

Year	Volume (Million)				
	RTGS	Retail Electronic Clearing (ECS, NEFT, IMPS)	Cards (debit, Credit)	Prepaid Payment Instruments (m-Wallets, PPI cards, Paper Vouchers)	Mobile Banking
2015-16	98.4	3,141.5	10,038.7	748.0	389.5
2014-15	92.8	1,687.4	8,424.0	314.5	171.9
2013-14	81.1	1,108.3	7,219.1	133.6	94.7
2012-13	68.5	694.1	6,174.5	66.9	53.3
2011-12	55.1	512.4	5,731.6	30.6	25.6

Source: RBI data and Dun & Bradstreet Research



Source: RBI data and Dun & Bradstreet Research

As per the above graph, growth in mobile banking Mobile banking in terms of volume over the five years has increased drastically to 389.5 million for year 2015-16 from 25.6 million for year 2011-12. This shows that in this segment growth is immense for banking sector.

B) Factors influencing the usage of Mobile banking:

Factor analysis has been done to sum up the different factors that are considered important in usage of mobile banking.

Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of sphericity:

We used the method of factor analysis to determine which factor influence the usage of mobile banking. Here we have taken eleven variables to analyses the factor affecting usage of mobile banking. Bartlett's test of sphericity and Kaiser-Meyer Olkin (KMO) has been used to measures sampling adequacy for factor analysis. The appropriate chi-square statistic is 392.938 which is 0.000 levels as shown in Table 2.As KMO statistics should be (>0.5) results from Table no. 2 shows (0.579) so we can used factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.579
Bartlett's Test of Sphericity	Approx. Chi-Square	392.938
	df	55
	Sig.	0.000

According to Kaiser's criterion variables greater than one has been retained. We can infer that 31.665% of variance is explained by factor 1, 19.127% of variance is explained by factor 2, 13.418 %of variance is explained by factor 3.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.483	31.665	31.665	3.483	31.665	31.665	3.153	28.660	28.660
2	2.104	19.127	50.792	2.104	19.127	50.792	2.426	22.056	50.716
3	1.476	13.418	64.209	1.476	13.418	64.209	1.484	13.493	64.209
4	.839	7.627	71.836						
5	.825	7.503	79.339						
6	.662	6.015	85.354						
7	.566	5.143	90.497						
8	.444	4.038	94.535						
9	.254	2.307	96.842						
10	.230	2.088	98.930						
11	.118	1.070	100.000						

Extraction Method: Principal Component Analysis

From above table no. 3 it has been observed that initial eigen values only three variables are greater than 1. So from 11 variables we have reduced to 3 variables. As rotation Sums of Squared Loadings Cumulative is greater than 60% so we can create the variables. There are three factors extracted. Thus after rotation 1st factor Potential benefits account for 28.660% of variation in data. 2nd factor account for Security 22.056 % of variation in data. 3rd factor Compatibility account for 13.493% of variation in data.

Rotated Component Matrix (Table no. 4)			
	Component		
	1	2	3
Mobile banking is user friendly.	.885	-.021	.283
Mobile banking facilitates to do banking anywhere, everywhere.	.758	-.060	.040
Mobile banking saves time.	.815	-.112	.039
Consistent service experience than human interference.	.685	.040	-.454
Finances are managed more efficiently.	.570	-.100	-.219
It involves lower cost.	.704	-.328	.437
Mobile banking would needs a more mental efforts.	-.296	.667	.006
Incompatible mobile	-.211	.333	.767
No mobile network at times	.089	.755	-.174
Fear of losing phone and data.	-.078	.727	.090
Mobile banking is a risky mode for banking transactions.	-.006	.798	.158

C) Perception of customers towards usage of Mobile banking:

The ANOVA and t-test has been used to determine perception of customers towards usage of mobile banking as shown in following section.

I) Gender:

Test of equality of variance (Table no. 5)				
Factor	Hypothesis	P-value	Decision	Interpretation
Potential benefits	$H_0: \sigma_m^2 = \sigma_f^2$ $H_1: \sigma_m^2 \neq \sigma_f^2$	0.319	$P > \alpha$ Accept H_0	Variances are assumed to be same on both male and female respondents on potential benefits
Security	$H_0: \sigma_m^2 = \sigma_f^2$ $H_1: \sigma_m^2 \neq \sigma_f^2$	0.203	$P > \alpha$ Accept H_0	Variances are assumed to be same for both male and female respondents on security
Compatibility	$H_0: \sigma_m^2 = \sigma_f^2$ $H_1: \sigma_m^2 \neq \sigma_f^2$	0.777	$P > \alpha$ Accept H_0	Variances are assumed to be same for both male and female respondents on compatibility

As per Table no. 5 results shows that variances are assumed to be equal for gender.

Independent t-test (Table no. 6)				
Factor	Hypothesis	P-value	Decision	Interpretation
Potential benefits	$H_0: \mu_m = \mu_f$ $H_1: \mu_m \neq \mu_f$	0.662	$P > \alpha$ Accept H_0	Perceptions of male customer are same as the female respondents on potential benefits.
Security	$H_0: \mu_m = \mu_f$ $H_1: \mu_m \neq \mu_f$	0.909	$P > \alpha$ Accept H_0	Perceptions of male customer are same as the female respondents on security
Compatibility	$H_0: \mu_m = \mu_f$ $H_1: \mu_m \neq \mu_f$	0.607	$P > \alpha$ Accept H_0	Perceptions of male customer are same as the female respondents on compatibility

From above Table no. 6 we conclude that perception of male consumers are same as the female respondents for all the factors and from the descriptive statistics also we are observed that value of mean score for male and female are generally close to each other

B) Age:

Test of equality of variance (Table no. 7)				
Factor	Hypothesis	P-value	Decision	Interpretation
Potential benefits	$H_0: \sigma_y^2 = \sigma_o^2$ $H_1: \sigma_y^2 \neq \sigma_o^2$	0.221	$P < \alpha$ Accept H_1	Variances are assumed to be same on both younger and older respondents on potential benefits
Security	$H_0: \sigma_y^2 = \sigma_o^2$ $H_1: \sigma_y^2 \neq \sigma_o^2$	0.102	$P > \alpha$ Accept H_0	Variances are assumed to be same for both younger and older respondents on security
Compatibility	$H_0: \sigma_y^2 = \sigma_o^2$ $H_1: \sigma_y^2 \neq \sigma_o^2$	0.246	$P > \alpha$ Accept H_0	Variances are assumed to be same for both younger and older respondents on compatibility

Variances are assumed to be same for all factors for younger and the older respondents as shown in Table no. 7.

Independent t-test (Table no. 8)				
Factor	Hypothesis	P-value	Decision	Interpretation
Potential benefits	$H_0: \mu_y = \mu_o$ $H_1: \mu_y \neq \mu_o$	0.919	$P > \alpha$ Accept H_0	Perceptions of younger customer are same as the older respondents on potential benefits.
Security	$H_0: \mu_y = \mu_o$ $H_1: \mu_y \neq \mu_o$	0.123	$P > \alpha$ Accept H_0	Perceptions of younger customer are same as the older respondents on security
Compatibility	$H_0: \mu_y = \mu_o$ $H_1: \mu_y \neq \mu_o$	0.014	$P < \alpha$ Accept H_1	Perceptions of younger customer are not same as the older respondents on compatibility.

From above Table no. 8 we conclude that perception on potential benefits, security are same and differs on compatibility for the younger and older respondents. Descriptive statistics shows that value of mean score for younger and older respondents are generally close to each other.

C) Income:

ANOVA(Table no. 9)						
		Sum of Squares	df	Mean Square	F	Sig
Potential benefits	Between Groups	3.654	3	1.218	1.227	.357
	Within Groups	83.346	84	.992		
	Total	87.000	87			
Security	Between Groups	3.644	3	1.217	1.226	.355
	Within Groups	83.336	84	.990		
	Total	87.000	87			
Compatibility	Between Groups	4.518	3	1.506	1.534	.013
	Within Groups	82.482	84	.982		
	Total	87.000	87			

As per the results from Table no. there is no significant difference in mean on perception of customers on account of income towards usage of mobile banking for two factors potential benefits and security.

CONCLUSION

Indian banking system is a mediator of economic development of a country will need to adopt a new business model by building IT based digital services to customers as consumers are rapidly moving towards electronic mode of transactions. Digitization offers convenience cost saving opportunities to banks as well as to customers. According to present study mobile banking in terms of volume has increased drastically which shows that in this segment growth is immense for banking sector. Most of the respondents finds mobile banking facility user friendly. Mobile banking is being used mostly for fund transfer. Customers are not using other services which are available by mobile banking.

It is shown from the study that factors like potential benefits, security, compatibility highly influence the usage of mobile banking. Perceptions of customer on these factors are same for gender. There is difference in perception of customers on account of age and income for factor

compatibility. One of the major challenge that is security in mobile banking transactions were concerned most for mobile banking users. In mobile banking for the security purpose PIN or password is used which may be hacked or difficulty in remembering codes. If mobile banking transactions is not highly secured it may leads to financial frauds. There is also risk with virus and malware attack or loss of mobile device. To overcome these challenges banks have to educate and aware their customers about mobile banking system and its security. Present Study shows that compatibility in terms of mobile phone handset is a critical issue in mobile banking. Banks must take an initiative with mobile handset manufacturers and software developers so that it's become compatible with single mobile banking technology. Customer satisfaction is key to success of any business, so banks has to work towards customer centric services which are technologically driven. As increased use of Smart phones changed the traditional mode of providing banking services to mobile banking through digitization. Hence to increase the penetration of mobile banking in India more emphasis should be given on improving infrastructure facilities and security.

REFERENCES

- [1] Archana Sharma, Dr. Vineet kansal (2012), Mobile Banking as Technology Adoption and Challenges: A Case of M-Banking in India, International Journal of Scientific and Research Publications, ISSN 2250-3153 Volume 2, Issue 2.
- [2] Barnes, S.J., and Corbitt, B.(2003), Mobile Banking: Concept and Potential, International Journal of Mobile Communications, 1 (3), pp. 273-288.
- [3] Bharadwaj, A. & Sawy, O. El. (2013), Digital Business Strategy: Toward a Next Generation of Insights, MIS Quarterly, 37(2), 471–482.
- [4] Bhinde, M.G.; Prasad, A.; and Ghosh, S. (2002), Banking Sector Reforms - A Critical Overview EPW, February, pp.399-408.
- [5] Parul Deshwal (2015), A Study of Mobile Banking in India, International Journal of Advanced Research in IT and Engineering ISSN: 2278-6244 Vol. 4.

- [6] Yogesh Jain (2013), Mobile Banking: A Study On Adoption & Challenges In Southern Rajasthan, India International Journal Of Innovative Research & Development, ISSN: 2278 – 0211 (Online) Vol 2 Issue 4.
- [7] Owusu-Frimpong, N. (1999), Patronage behaviour of Ghanaian bank customers, International Journal of Bank Marketing,17(7), pp. 335-341.
- [8] S.Karnouskos (2004), Mobile Payment: A journey through existing procedures and standardization initiatives ,IEEE Communications Surveys & Tutorials, pp. 44-66,
- [9] Seema Malik (2014), Technological Innovations in Indian Banking Sector: Changed face of Banking, International Journal of Advance Research in Computer Science and Management Studies ISSN: 2321-7782 (Online) Volume 2, Issue 6.
- [10] Setia, P., Venkatesh, V. and Joglekar, S. (2013),Leveraging digital technologies: how information quality leads to localized capabilities and customer service performance, MIS Quarterly, 37(2), 565–590.
- [11] Sharma, Prerna , Singh and Preeti (2009), Users' perception about mobile banking- with special reference to Indore and around, Review of Business and Technology Research, Vol. 2, 1, pp. 1-5.
- [12] Tallon, P. P. (2010), A service science Perspective on strategic choice, IT, and performance in U.S. banking. Journal of Management Information Systems, 26(4), 219–252.
- [13] Unnithan, C.R. and Swatman, P. (2001), Online banking Adaptation and Dot.Com Viability: A Comparison of Australian and Indian Experiences in the Banking Sector, School of Management Information Systems, Deakin University, No. 14.
- [14] www.rbi.org.in