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A Study on the Perception of the Employees of Public Sector Banks on the Role of Technology for Furthering Financial Inclusion

Komal B. Sidhnani[1], Dr. Gurmeetsingh Sikh[2]

[1]Assistant Professor, Faculty of Management, GLS University, GLS Campus, Opp. Law Garden, Ellis Bridge, Ahmedabad - 6, Gujarat, India.
[2]Associate Professor, Faculty of Management, GLS University, GLS Campus, Opp. Law Garden, Ellis Bridge, Ahmedabad - 6, Gujarat, India.

Corresponding Author: **Ms. Komal B Sidhnani**
A/365, Nayannagar, Nr. Prarthna Hospital, Krishna nagar road, SaijpurBogha, Ahmedabad, 382 345.

Abstract: Over the period of time many policies have been developed and many schemes have been launched in order to boost financial inclusion. Most significant developments have been done in terms of banking technologies. In this research paper, the supply side perspective of bankers with regards to the role of technology in furthering financial inclusion is studied. It has been observed in the literature that many studies have been conducted so far which focused on demand side aspects of financial inclusion. However, there exists a significant gap with regards to the study of supply side perception. Here, in this research the perception of employees of State Bank of India (SBI) and Bank of Baroda (BOB) is known about the use of ATM, Debit/Credit Card, Internet Banking, Tele banking, Mobile application and SMS Banking for financial inclusion. The data is collected with the help of structured questionnaire and is analysed using one sample t-test. The result of the study shows that majority of the bankers have affirmed that banking technology helps them in meeting the financial inclusion goals in relatively easier and smooth manner. They have also affirmed that customers are fairly aware about the banking technologies.

Keywords: Bankers, Financial Inclusion, Banking Technology, ATMs, Debit/Credit Card

INTRODUCTION

Financial Inclusion

Financial inclusion is the concept of providing financial services to the low income earning group of the society in order to include the latter in the sphere of development of the economy. Most of the developing countries face the problem of financial exclusion. As India has majority of its population staying in rural areas, it too faces the problem of financial exclusion. In spite of being the fastest growing economy, the level of financial inclusion has remained low (Sarma, 2012).The situation of financial exclusion can be very harmful for the economy as well as for the society as it deepens the difference between riches and poor. Thus, in 2005, the central bank, Reserve Bank of India made it mandatory for the banking institutions to make themselves available in the rural areas for meeting the financial inclusion goals. However, as per the statistics and daily reports used by RBI, the government norms on RBI could hardly make any significant impact in beating financial exclusion. It was only after 2014, some positive changes were observed when the newly elected NDA govt. come with an innovative idea of connecting people especially from rural and remote areas with banking industry by launching Pradhan Mantri Jan-DhanYojana the vision of govt. is economic liberalization and opportunities of development and growth of India with the help of micro financing.

Banking Technologies

Banking in old circumstances was not the firmly checked and firmly directed business that it is today. Rather, prior banking was totally a free market task. Presently, banking changed to be finely directed business that it is today. In the domain of banking and fund nothing stops. The best distinction in all is in the, degree of the matter of banking. Banking in its standard from is stressed over the affirmation of stores from the customers, the crediting of flood of stores to suitable customers who wish to secure and transmission of benefits. Aside from customary business, banks now days give an extensive variety of administrations to fulfil the money related and non-monetary requirements of a wide range of clients from the littlest record holder to the biggest organization and now and again of non-clients. The extent of administrations contrasts from bank to bank depending for the most part on the sort and size of the bank. Advancement has been a champion among the most fundamental components for the improvement of mankind. Information and correspondence advancement is the noteworthy appearance in the field of development which is utilized for get to, process, stockpiling and scattering of data

electronically. Banking industry is rapidly creating with the use of advancement as ATMs, on-line banking, phone banking, versatile banking et cetera., plastic card is one of the banking things that consider the necessities of retail partition has seen its number create in geometric development starting late. This advancement has been unequivocally maintained by the change of in the field of development, without which this couldn't have been possible clearly it will change our lifestyle in coming years. The move towards web banking is fuelled by the changing progression in India. By 2020 the normal period of India will be 29 years and this youthful purchaser base is web canny and needs constant online data. Indian banks along these lines need desire high and push toward executing a world class web banking ability. In 2012-13, Indian banks sent innovation escalated answers for increment income, improve client encounter, enhance cost structure and oversee endeavour chance. In any case, there is a wide variety in the innovation motivation and usage ability crosswise over various players of the banking business.Few of the major banking technologies are: ATMs, Debit/Credit Cards, Internet Banking and Mobile Banking.

LITERATURE REVIEW

Financial Inclusion

Sairam & Subramanian (2014) stated in their research that financial inclusion gained increased significance since 2005 when Rangarajan Committee was set up to survey the saving money works on preventing comprehensive development. India perceived the requirement for comprehensive development at the very beginning of independence phase. Sharma and Kukreja (2013) stated in their research that a nation can develop monetarily and socially if its weaker area can end up being monetarily independent. They further stated that monetary development can be accomplished through lessening of variations regarding salary and reserve funds and social development can be accomplished through Eradication of Poverty.

Alfred Hannig and Stefan Jansen (2010) stated that most recently, the concentration has shifted to links between income and inequality. He found a connection between money related advancement, decreased salary disparity, and poverty alleviation: the total use of budgetary administrations, that is, more profound monetary frameworks, seems to lessen Gini-coefficients, an estimation of imbalance.

Venkataramany and Bhasin (2009) said that the Indian viewpoint of money related consideration underscores access to monetary administrations in three particular measurements of credit, wealth creation and contingency management. Past credit, the arrangement of an extensive variety of financial services, including saving accounts, insurance, and remittance facilities are required. Possibility arranging must incorporate retirement anticipating annuity benefits, insurable possibilities for health care, crop insurance and asset protection, and also some buffer savings. Raman (2012) said that a comprehensive money related framework is attractive for some reasons. In the first place, it encourages effective distribution of profitable assets. Second, access to proper money related administrations can essentially enhance the everyday administration of funds. Also, third, a comprehensive monetary framework can help decrease the development of casual wellsprings of acknowledge, (for example, moneylenders) which regularly have a tendency to be exploitative.

Reasons of Financial Exclusion

Venkataramany and Bhasin (2009) stated that Governmental endeavors to upset it are generally undermined by deteriorated administrative practices. Financial exclusion can be found in both developed and developing economies. Scantily populated uneven territories with poor foundation, trouble of access, absence of mindfulness among buyers, social avoidance, low salary and lack of education are a portion of the essential explanations behind money related rejection in India. Whereas Singh and Tondon (2010) stated that lack of data, insufficient documentation, lack of mindfulness, high exchange charges, lack of access and illiteracy are the major reasons of financial exclusion.

Banking Technologies

Acholiya, &Keshari (2013) mentioned in their research that in today's hi-tech world, technology support is very important for the smooth functioning of the banking. Without information technology and communication it is difficult to think about the success of a banking sector. ITC has enlarged the role of banking sector in the economy. The reason why the use of technology is so important in banking sector is the benefits that are consequent to it. ITC enables banks to offer better services to its customers in a secure, reliable, affordable manner and sustain competitive advantage over other banks. Banks are also able to give quick response to the customer queries. In the competitive financial market, the banks with the latest technology and techniques are more successful in the modern civilization and are also able to generate access profits. For customers, remote banking, anytime banking, self-inquiry facilities, etc have become possible. For employees, IT has increased their productivity through accurate computing of cumbersome and time-consuming jobs such as balancing and interest calculations on due dates, automatic printing of covering schedules, deposit receipts, pass book / pass sheet (transaction documents), freeing the staff from performing these time consuming jobs, and enabling them to give more attention to the needs of the customer, signature retrieval facility, assisting in verification of transactions, sitting at their own terminal and avoidance of duplication of entries due to existence of single-point data entry.

Further in Berger's study (2003) the evidences say that it is not only useful to ease the customer-side transactions but

also facilitates the work of supply-side transactions. Thus, it can be said that ITC in banking sector has made the front office and back office work a cake walk.

According to Saranya, Anitha&Vasantha (2013) various technologies which can be credited in the account of banking sector include ATM, credit card, tele-banking, mobile banking, internet banking through website or mobile application, Point of Sale Transfer Terminal, Electronic Cheque Conversion, Personal Computer Banking Services, and Electronic Fund Transfer at Point of Sale (EFTPOS). These technologies run with the support of internet, NFC or GSM as per compatibility. All these technologies can be divided into two categories: Click mortar and combination of Brick & Click mortar. The technologies facilitate the payment & transfer, electronic withdrawals & deposits, exchange of information, use of financial tools for estimation of rates and amounts, etc.

Use of banking technologies for financial inclusion

Subha & Rajmohan (2014) in their research stated that developments in the field of Information Technology (IT) strongly support the growth and inclusiveness of the banking sector, thereby facilitating inclusive economic growth. It has the potential of furthering financial inclusion by making small ticket retail transactions cheaper, easier and faster for the banking sector as well as for the small customers. The Reserve Bank has been actively involved in harnessing technology for the development of the Indian banking sector.

According to RBI Report (2013) IT facilitating exclusively the working of the banking sector is often referred as banking technology. Not all but most of the banking technologies are of a nature through which banks can reach to people residing in remote areas. Amongst the various technologies used by banks, tele-banking, mobile banking, internet banking through website or application, ATMs and kiosk machines are used as a medium to expand the market reach. Though they are used in general, but they are also dedicatedly leveraged for meeting the goals of financial inclusion declared as priority.

Subha&Rajmohan (2014) stated that IT facilitates financial inclusion through enhanced communication & connectivity for Business Correspondents, Business Facilitators, National Payment Corporation of India (NPCI), Unique Identification Authority of India (UIDAI).

OBJECTIVES

The main objectives of the study are:

- To know the perception of employees of public banks about the role ofselected banking technologies for furthering financial inclusion in India.
- To know which technology plays the significant role in furthering financial inclusion in India.
- To know the advantages and disadvantages of banking technologies with regards to their use for financial inclusion.
- To know employees' perception about banking technologies on the basis of various demographic factors.

RESEARCH METHODOLOGY

The research design used for the study is descriptive in nature. The primary data is collected with the help of questionnaire from the bankers associated with the State Bank of India(SBI) and Bank of Baroda (BOB). The sample units belong to various branches of SBI and BOB and in total 50 responses are collected. For data collection, non-probability convenience sampling method is used. The secondary data is collected from journals, reports, industry publications, website articles, etc.For analysing the collected data, one sample t-test is used as most of the variables are falling into same sample group. T-test is also suitable for the scale used in questionnaire and for the objectives of the study. The test is performed in SPSS software.

ANALYSIS& FINDINGS

Descriptive Analysis

The descriptive analysis is performed on 50 responses collected. The results are presented in the Table no.1 and 2.

Table 1: Profile of Bankers

Gender	**Frequency**	**Percent**
Male	36	72.0
Female	14	28.0
Total	50	100.0
Age	**Frequency**	**Percent**
18-25 years	10	20.0
26-35 years	29	58.0
36-45 years	9	18.0
46-55 years	2	4.0
Total	50	100.0
Experience in banking sector	**Frequency**	**Percent**
Less than 5 years	10	20.0
5-10 years	23	46.0

11-15 years	13	26.0
16-20 years	2	4.0
21 years & Above	2	4.0
Total	50	100.0
Position in Hierarchy	**Frequency**	**Percent**
Clerical	8	16.0
Asst. Manager/ Officer	35	70.0
Dy Manager/ Manager	5	10.0
Senior Manager	2	4.0
Total	50	100.0
Educational Qualification	**Frequency**	**Percent**
Post Graduate	39	78.0
Professional	1	2.0
Graduate	10	20.0
Total	50	100.0

The results presented in Table 1 show that demographic nature of the respondents. Out of the 50 respondents, 36 are male and 14 are female. 29 respondents are falling into the age group of 26-35 years. 23 respondents are having the experience of 5-10 years, 13 respondents are having the experience of 11-15 years while in total 4 respondents are having the experience of 16 years and above. 35 respondents are holding the position of an officer or assistant manager, while 2 are holding the position of senior manager. 39 of the 50 respondents are having the qualification of masters.

Table 2: Frequency Analysis - No. of bankers considering selected banking technology to be vital for Financial Inclusion

Years of Experience	Strongly Agree that following banking technologies are vital for FI					
	ATMs	Mobile Application	SMS Banking	Internet Banking	Tele Banking	Debit/Credit Card
Less than 5 Years	7	1	0	1	0	6
5-10 Years	13	6	1	6	1	8
11-15 Years	6	5	2	5	2	3
16-20 Years	2	1	0	1	0	1
21 Years and above	2	0	0	0	0	2
Total	30	13	3	13	3	20

From the data presented in the table no. 2, it can be seen that most of the respondents believe that ATMs are extremely important and are vital for furthering financial inclusion. The second most importance is given to Debit and Credit cards by the bankers with 20 out of 50 believing it to be vital. Mobile application banking and internet banking is given equal importance and is considered as third vital technology for FI. The least importance is given to SMS Banking and Tele Banking.

Hypotheses Testing:

Hypotheses 1 to 6:

$H0_{1 \text{ to } 6}$: According to bankers they are not fully aware of the various* banking technologies.

*ATMs, Mobile Application, Debit/Credit Card, Tele Banking, Internet Banking and SMS Banking

Table 3: Bankers' perception about their awareness level – One sample t-test Results

	t	Df	Sig. (2-tailed)
I am fully aware of ATMs	62.770	49	.000
I am fully aware of Mobile Application	63.583	49	.000
I am fully aware of Debit/Credit card	63.000	49	.000
I am fully aware of Tele Banking	73.500	49	.000
I am fully aware of Internet Banking	63.583	49	.000
I am fully aware of SMS Banking	57.135	49	.000

As Significance level is less than 0.05, null hypotheses from 1 to 6 are rejected. It can be seen from the data analysis that bankers believe are completely confident about their knowledge about various banking technologies. From the

data collected it was observed that most of the bankers were completely confident about their awareness level with regards to various banking technologies. And the same is proven by the hypothesis testing. The test results in the table no. 3 show that the significance values is less than 0.05, thus, the null hypothesis that bankers are not fully aware of the banking technologies is rejected.

Hypotheses 7 to 20:

$H0_{7 \text{ to } 20}$: According to bankers, banking technologies do not have any advantage/s*in furthering Financial Inclusion.

*All the advantages are stated below in the table.

Table 4: Advantages of using technology for furthering Financial inclusion - One sample t-test Results

	T	df	Sig. (2-tailed)
Ease and Convenience	70.229	49	.000
Time and Location Constraints Met	68.861	49	.000
Cost Reduction	65.728	49	.000
Offer Innovative Services to customers	66.627	49	.000
Offer Low Cost Services	66.627	49	.000
Offer Quality Services	65.728	49	.000
Reach Customers In Remote Areas	63.331	49	.000
Reduces Queries at counter	73.586	49	.000
Identify frauds	73.586	49	.000
Ease in handling query	73.586	49	.000
Employees Job satisfaction	73.586	49	.000
Reduces Work load of employees	73.586	49	.000
Saves Customers' Time	73.586	49	.000
Reduces Customers' Cost	73.586	49	.000

As Significance level is less than 0.05, null hypotheses from 7 to 12 are rejected. Out of all the responses gathered, almost 90% agreed to having considered the above factors as advantages of using technology for furthering financial inclusion. The same is also proven by a hypothesis testing and the results are presented in the table no. 4. Thus, all the null hypotheses are rejected on the basis of one sample t-test and all the researchers' hypotheses are accepted.

Hypotheses 21 to 25:

$H0_{21 \text{ to } 25}$: According to Bankers, there is no complexity* in using banking technology for financial inclusion.

*All the complexities are stated in the table below.

Table 5: Complexities in using technology for furthering Financial inclusion - One sample t-test Results

	t	df	Sig. (2-tailed)
Managing Data of Clients	33.161	49	.000
High Cost	33.161	49	.000
Lack of complete awareness about the technology	22.950	49	.000
Non-availability of IT Professional	20.004	49	.000
Customers don't have complete Documents	20.616	49	.000

As Significance level is less than 0.05, all the null hypotheses are rejected. Most of the respondents have disagreed that above factors related to banking technologies are creating complexities in furthering financial inclusion. The same is proven by hypotheses testing and the results are presented in the table no. 5.

Hypotheses 26 to 31:

$H0_{26 \text{ to } 31}$: According to Bankers, customers are not comfortable in using Banking technologies.

Table 6: Bankers' perception about customers' comfort in using banking technology - One sample t-test Results

	t	Df	Sig. (2-tailed)
Customers are Comfortable in using ATMs	52.915	49	.000
Customers are Comfortable in using Mobile Application	28.062	49	.000
Customers are Comfortable in using Debit/Credit Card	77.870	49	.000

Customers are Comfortable in using Tele Banking	16.216	49	.000
Customers are Comfortable in using Internet Banking	33.084	49	.000
Customers are Comfortable in using SMS Banking	26.325	49	.000

As Significance level is less than 0.05, null hypotheses are rejected. From the responses collected, 86% of respondents strongly agree that customers are most comfortable in using ATM and Debit/Credit Card, 58% of respondents strongly agree that customers are comfortable in using SMS and Telebanking and 28% of respondents strongly agree that customers are comfortable in using Internet Banking and Mobile Banking. The same is proven by the hypothesis testing in the table no. 6.

Hypotheses 32 to 37:

$H0_{32\ to\ 37}$: Gender does notaffect the employees' opinion on their awareness level about various banking technologies.

Table 7: Gender and Awareness of various banking technologies – ANOVA Results

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I am fully aware of ATMs	Between Groups	1.067	1	1.067	4.489	.039
	Within Groups	11.413	48	.238		
	Total	12.480	49			
I am fully aware of Mobile Application	Between Groups	.381	1	.381	1.642	.206
	Within Groups	11.139	48	.232		
	Total	11.520	49			
I am fully aware of Debit/Credit card	Between Groups	1.587	1	1.587	6.982	.011
	Within Groups	10.913	48	.227		
	Total	12.500	49			
I am fully aware of Tele Banking	Between Groups	.063	1	.063	.384	.538
	Within Groups	7.937	48	.165		
	Total	8.000	49			
I am fully aware of Internet Banking	Between Groups	.381	1	.381	1.642	.206
	Within Groups	11.139	48	.232		
	Total	11.520	49			
I am fully aware of SMS Banking	Between Groups	.041	1	.041	.144	.706
	Within Groups	13.579	48	.283		
	Total	13.620	49			

On the basis of the data presented in the table no. 7, it can be concluded that null hypotheses 32 and 34 are rejected, which means that gender does not affect the employees' opinion about their awareness level with regards to ATMs and Debit/Credit Cards. However, it can be noted that gender does affect the employees' opinion about their awareness level with regards to Mobile Application, Tele-banking, Internet Banking and SMS Banking. Thus, null hypotheses 33, 35, 36 and 37 are accepted.

Hypotheses 38 to 43:

$H0_{38\ to\ 43}$: Number of years of experience does not affect the employees' opinion on their awareness level about various banking technologies.

Table 8: Experience and Awareness of various banking technologies – ANOVA Results

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I am fully aware of ATMs	Between Groups	3.480	4	.870	4.349	.005
	Within Groups	9.000	45	.200		
	Total	12.480	49			
I am fully aware of Mobile Application	Between Groups	3.273	4	.818	4.464	.004
	Within Groups	8.247	45	.183		
	Total	11.520	49			
I am fully aware of Debit/Credit card	Between Groups	3.434	4	.859	4.262	.005
	Within Groups	9.066	45	.201		

	Total	12.500	49			
I am fully aware of Tele Banking	Between Groups	1.895	4	.474	3.491	.014
	Within Groups	6.105	45	.136		
	Total	8.000	49			
I am fully aware of Internet Banking	Between Groups	3.273	4	.818	4.464	.004
	Within Groups	8.247	45	.183		
	Total	11.520	49			
I am fully aware of SMS Banking	Between Groups	1.393	4	.348	1.282	.291
	Within Groups	12.227	45	.272		
	Total	13.620	49			

On the basis of the data presented in the table no. 8, it can be concluded that null hypotheses from 38 to 42 are rejected, which means that number of years of experience does not affect the employees' opinion about their awareness level with regards to ATMs, Mobile Application Banking, Debit/Credit Cards, Tele Banking and Internet Banking. However, it should also be noted that number of years of experience does affect the employees' opinion about their awareness level with regards to SMS Banking. Thus, null hypothesis 43 is accepted.

CONCLUSION

From the study it can be concluded that the extent of financial inclusion has increased in recent years unlike in the previous years. On the basis of test results, it can be concluded that most of the employees believe that banking technologies do help in meeting the financial inclusion goals. Out of ATMs, Mobile Application Banking, Debit/Credit Cards, Tele Banking, Internet Banking and SMS Banking, ATM is considered to be one of the most vital technologies for furthering financial inclusion and Debit/Credit Cards are considered to be second important technology and SMS banking has been given least importance.

Further, the researcher has observed that gender and experience do not majorly affect the opinion of bankers with regards to their awareness level of various banking technologies. The study also concludes that, bankers believe that technology has several benefits like: ease and convenience, meeting time and location constraints, cost reduction, offering innovative, low cost and quality services to customers, reaching out to customers in remote areas, reducing queries at counter, identifying frauds, ease in handling query, increased level of job satisfaction, reduction of work load of employees, saving time and money of customers. Thus, Banking technologies are significantly helpful in meeting financial inclusion goals.

REFERENCES

1. Acholiya, R., &Keshari, V. (2013). Benefits of IT in Banking Sector. Pioneer Journal, 2013. Retrieved from: http://pioneerjournal.in/conferences/tech-knowledge/15th-national-confernce/3899- benefits-of-it-in-banking-sector.html
2. Berger, A. N. (2003). The economic effects of technological progress: Evidence from the banking industry. *Journal of Money, credit, and Banking*, *35*(2), 141-176.
3. Hannig, A., & Jansen, S. (2010). Financial inclusion and financial stability: Current policy issues.
4. Raman, A. (2012). Financial inclusion and Growth of Indian banking system. *Journal of Business and Management*, *1*(3), 25-29.
5. Sairam, S. (2014). Research Article Banking With the Unbanked Sector. *International Journal of Recent Scientific Research Research*, *5*, 408-414.
6. Saranya, J., Anitha, K., &Vasantha, S. (2014). An Empirical Study on Role of ICT in Banking Sector. International Journal of Multidisciplinary and Current Research, 2.
7. Sarma, M. (2012). Index of Financial Inclusion–A measure of financial sector inclusiveness. *Berlin (GE): Berlin Working Papers on Money, Finance, Trade and development*.
8. Sharma, A., & Kukreja, S. (2013). An analytical study: Relevance of financial inclusion for developing nations. *International Journal of Engineering and Science*, *2*(6), 15-20.
9. Singh, A. B., & Tandon, P. (2012). Financial Inclusion in India: An Analysis. *International Journal of Marketing, Financial Services and Management Research*, *1*(6), 41-54.
10. Subha, K., & Rajamohan, S. (2017). Bankers familiarity and preference towards financial inclusion in Sivaganga district. *International Journal of Advanced Research in Management and Social Sciences*, *6*(3), 130-136.
11. Venkataramany, S., & Bhasin, B. B. (2009). Path to financial inclusion: The success of self-help groups-bank linkage program in India. *The International Business & Economics Research Journal*, *8*(11), 11