

## TECHNOLOGICAL SIGNIFICANCE IN FINANCIAL INCLUSION WITH SPECIAL REFERENCE TO BANKING SECTOR

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### ABSTRACT

With the introduction of millennium 2000 many developing countries in the world came to understand the role of Information Communication Technology (ICT) in the countries growth and development. India also understood the need of the hour and created a draft of policy in 2011 launched finally launched the policy in 2012. Financial inclusion on the other hand ensures the access of appropriate financial products and services needed by lower groups of society at an affordable cost and in fair and transparent manner by mainstream institutional players. Financial inclusion has been accorded high importance by Reserve Bank of India. For this purpose the help of questionnaire was taken in order to understand the usage of ICT by people of different age groups from the urban area, difficulties they face and thereon remedial changes are offered. This paper will also give us an idea that whether ICT has helped in achieving the desired targets of financial inclusion.

**Keywords:** ICT, financial inclusion, banking sector, Technology

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### INTRODUCTION

India is a developing country and for a developing country to come into the category of developed one a sturdy banking system is one among the prior requisites. It should have a banking system which looks into the financial needs of individuals belonging to both urban and rural areas as well as various developing corporate. With the changing scenario of world banking system necessary reforms there is a requirement of up-to-date banking in congruence with necessary calibrated banking regulation. For a developing country it is very important to have a literate society having knowledge of financial systems which in turn could enhance financial literacy in the nation. Development can be achieved by having a high level of financial inclusion and high penetration of education system to support it. This economic growth is further enhanced when this support system is further given an added base of increasing financial coverage of investment in various sectors of society

Financial inclusion can basically be described as a process of ensuring access to appropriate financial service and financial products which are used and needed by all the sections of society like ATM facility, fund transfers at real time, electronic fund transfers, payment to various

services and for various products without being physically present in the bank branches etc and particularly at an affordable cost and in a fair and transparent manner by mainstream institutional players. This system basically reduces the footfall of customers at the branch thereby reducing the workload of banking officers. In this paper an attempt has been made to understand the significance of technology in this area of financial inclusion

## **LITERATURE REVIEW**

For India Financial inclusion is of utmost importance but it still remains a distant dream. Leyshon and Thrift (1995) defined financial exclusion as those processes which prevent certain individuals and social groups a formal financial system access. According to Sinclair (2001), financial exclusion meant the inability to access necessary financial services in an appropriate form. In fact Government of India's Committee on Financial Inclusion in India" begins its report by defining financial inclusion as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as the weaker sections and low income groups at an affordable cost" (Rangarajan Committee 2008). Although various programs and policies are being developed by Reserve Bank of India in order to achieve high financial Inclusion in both urban and rural areas up to 2016. A study done by Rupambara (2010) stated that more than 40 percent of urban population still financially excluded and has no access to bank accounts which in turn deprives them from basic facilities like saving and using various financial services like credit and loans from the formal financial system.

Out of the total urban population which is financially included in the system inefficiently uses the present communication technology to access their accounts and related services. Although a lot of work has been done in relation to financial inclusion in various sectors and areas of the country but little is done in relation to specify the role of ICT in relation to financial inclusion.

Much of the work has been done by various scholars in their countries to study the effect of Technology over the various aspects of banking and banking related sectors. As Irechukwu' (2000) has tried to look into the aspect of technology over various banking services like opening an account, processing and recording of banking transactions etc.

(Akinuli, 1999; Ovia,2005) discussed in their respective paper about the changing world of technology and how it has affected or left an impact in the financial system and thereby leaving a direct impacting the life of people. More over they discussed about the effect of improved technological banking services over its customer retention and customer satisfaction.

Not only India but various other countries are working on financial inclusion. Among all the developed nations it was UK who realized financial inclusion as the need of the hour (kempson2004, Collard et al. 2001). The UK government in 2005 constituted a 'Financial Inclusion task force' in order to evaluate the penetration of financial inclusion. Infact in 2004 South Africa started a low cost banking account facility called 'Mzansi'. Even RBI also laid the foundation of 'No frills account' policy and 'General Credit Card' facility to increase the level of financial inclusion in rural areas. (Thorat, 2007). Musiyi (2012) over Kenyan banking system

explained about the extreme evolved banking system in Kenya and how they have evolved themselves in this cut-throat competition by providing extra facility and training to the people who are still not included in the financial system or by giving them hands on training to increase their frequency of usage of ICT tool to access banking services.

Along with that with a view to provide hassle free banking and credit facility to customers Indian banks were allowed to issue general credit cards which were similar to kisan credit cards. Also it was the time when banks were encouraged to adopt and increase IT infrastructure so as to increase financial inclusion and also improve the banking service and quality so that it could support large rural population (Mohan, 2006).

A multi dimensional index of financial inclusion has been proposed by Sarma (2008) which carries information on financial inclusion by measuring it in various dimensions using single digit lying between 0 and 1. It captures and tells about the banking system, its usage and availability to its users.

Use of communication technology for sending data by various software and hardware linkages has been explained by Laudén, 1997. Fisher extended its idea and integrated this for efficient banking system communication. He explained how the system can be classified into three phases:

- 1) Physical Non involvement of Banks: A service which was software driven and did not involve the banking personnel for any purpose. i.e. ATM usage, web banking etc.
- 2) Employee Integration: Technology used as a tool to solve customer problems by banking personnel.
- 3) Full service coverage by banks: The invisible services provided by banking system to make customer online banking system more sturdy, easy and secure along with creating transparency in operations

Today ICT has integrated itself into the banking system so deep that it is present virtually everywhere. It has diffused its indicators everywhere in the form of various services like ATM service, Credit card service, debit card service, internet banking services, telephone banking, MICR, electronic fund transfer, electronic data interchange, electronic home, even prepaid cards and depositing money through ATM services have taken this revolution to another phase.

However there have been many paper who study the relationship between technology usage by bank employees or its effect on their efficiency but up till now no one has tried to look into technology as a tool to access banking facility. For the same reason and to study the effect of tools in the wide region which caters all the class of the society (urban/ rural/ business/ service/ student/ un-employed etc) malwa region was selected as this region is the biggest hub of Pan-India commodity market esp rural area which makes it more attractive to study. It is an area which excels in the nationwide production of agriculture commodities like soya bean and its products, cotton, wheat, red chilli, opium etc. and also caters all the sections of society in a small region.

## RESEARCH OBJECTIVE

While conducting this research the frequency of usage of ICT has been studied over those people who are either previously or recently included in the financial system. This paper makes a serious attempt to study the impact of technology while accessing the feature of banking system that is to understand what is the impact of technology over financial system using ICT as a tool to operate banking facilities related to the inclusiveness of financial inclusion;

**H01:** *There is no significant effect of Technology over accessing various Banking/ financial services*

In this case we try to assume that introduction of technological services like mobile banking and online banking has not affected the nature of respondents and they still prefer the old school method of banking i.e.; being physically present for any banking service requirement etc. We assume that people do not trust the online or mobile banking system and consider physical banking system still safer and robust. They prefer to be physically present for any banking related transaction or facility instead of being able to perform the action electronically.

**H Alt 01:** *There is significant effect of Technology over the usage of various Banking/ financial services provided by the banking sector.*

In this hypothesis we assume that after the introduction of technology in banking system our usage of technology as tool for accessing banking facility has greatly affected our life.

**H02** *There is no significant effect of age over usage of Technology to access various Banking/ financial services*

In this hypothesis we try to find the effect of age over usage of technology as a tool to access Banking and other financial services. Here we assume that age does not play a role in effecting the relation of technology with Banking services.

**H Alt 02:** *There is significant effect of age over usage of Technology to access various Banking/ financial services*

Here we assume that age plays a role and effects the role of relationship between them i.e. it effects the relation of technology with Banking services.

Technology (ICT) has made a significant impact over our life in relation to our financial inclusiveness in the system. People are able to perform their work by sitting at the same place rather than going to the bank. Moreover they prefer to use technological tool for banking facilities rather and consider them safer.

## DATA METHODOLOGY

### SAMPLE

The Sample consisted of an urban population ranging from 18 years to 65 years, both male and female of various educational and financial backgrounds in order to find out access tool for their financial inclusion i.e.; is it ICT based system or they still rely on the old school method of physical presence. An attempt has been made to cover all the age brackets, diverse educational background people and all income levels in order to draw an unbiased conclusion from the sample data.

Following are the few sample questions which were the part of questionnaire in order to check the mode of banking usage by respondents:

<b>D:</b>	<b>Usage of technology for accessing banking facility by customers</b>				
D1	I use internet facility for accessing my bank details:				
	More than twice in a month	Once in a month	Once in 6 month	Once in a year	Never
D2	I use internet banking facility for paying my bills online(tata sky/phone recharge/electricity payment)				
	More than twice in a month	Once/twice in a month	Once in 6 month	Once in a year	Never
D3	I use ATM card/Debit/Credit card for physically shopping from a shop				
	More than twice in a month	Once/twice in a month	Once in 6 month	Once in a year	Never

*Table 1: Sample of questions from questionnaire*

Other demographic related questions were as follows:

### Name (Optional):

<b>Age:</b>	<25□	25-34□	35-50□	>50□	
<b>Gender:</b>	Male □	Female □			
<b>Marital Status:</b>	Married □	Single □			
<b>Education:</b>	Secondary □	Graduate □	Post Graduate □		
<b>Occupation:</b>	Student □	Professional □	Business □	Retired	□
	Housewife □	Others □			
<b>Income Monthly:</b>	Unemployed □	< Rs. 10,000 □	< Rs. 25,000 □	< Rs. 50,000 □	
		< Rs. 100,000 □	> Rs. 100,000□		
<b>Location:</b>	Village□	Tehsil □	District Headquarter□	Town □	

*Table 2: Demographics*

## PROCEDURE

With the research objective, final data was collected by survey method involving filling up of questionnaire in both online and offline format. After all the responses being received the missing information was pruned by using the average method. A coding sheet in excel was prepared before transferring data for statistical analysis. SPSS was used to tabulate and analyze data. For reliability analysis a test cronbach alpha method was used.

Apart from chronbach's alpha KMO measure of sampling adequacy and Barlett's test of sphereity were also used and applied over all the likert scale statements asked by respondents in questionnaire in sample. The technique of factor analysis was conducted by computing mean factor score of all the possible factors and their standard deviation. Thereafter simple ONE WAY ANOVA was applied to find whether the relationship between technology and accessing banking services though net exist or not.

## EMPIRICAL RESULTS AND DISCUSSION

While running the reliability test the value of cronbach alpha came out to be 0.871 which is above the minimum acceptance level and considered satisfactory. For validity analysis, the value of KMO measure of sampling adequacy and Barlett's test of sphereity was applied and was found to be 0.839 which is greater than 0.5 so we can deduce that the model was valid and reliable.

In order to know the factors, dimension reduction was performed to capture the factors and to deduce the inference we came up with overall 8 factors out of which we are using two factors (Technological role and Banking Services) in this paper. We tried to study whether there is a valid relationship between the two or not.

A) To check significant effect of Technology over accessing various Banking/ financial services

In order to check the effect of Technology level over ICT usage (i.e. factor 1) 1 WAY ANOVA test was applied and the following results were obtained:

Factors	Sum of Squares	Df	Mean Square	F	Sig.	Result
Between Groups	53.649	3	17.883	3.671	.016	H <sub>0</sub> : Not Accepted
Within Groups	120.962	180	0.672			
Total	174.611	183				

*Table 3: ANOVA table for evaluating effect of technology over Banking services*

Since the value of Sig. =0.016 and the value of F =3.671 which is greater than the tabled value we can conclude that our NULL Hypothesis was not accepted. It shows that there exist a significant effect of technology over Banking/ financial services.

B) To check significant effect of age over usage of Technology to access various Banking/ financial services

Factors	Sum of Squares	Df	Mean Square	F	Sig.	Result
Between Groups	71.080	3	23.693	15.688	0.201	<b>Ho: Not Accepted</b>
Within Groups	271.86	180	1.510			
Total	342.94	183				

Table 4: ANOVA table for evaluating effect of age over ICT usage for banking services

## DISCUSSION

From the above result of Cronbach and Barlett's test it was clear that our model is valid and reliable. For the acceptance of above result we saw that the Level of Significance to be lesser than 0.05 and by comparing it with the tabulated result of table 1 having a significance level of 0.016 and F value of 3.671 we can say that our Null hypothesis is not accepted and the change is due to the effect of technology over banking system. For table 2 having a significance level of 0.201 and an F value of 15.688 also shows that our Null hypothesis is also not accepted over here and age certainly plays an important role in determining the relation of technology usage for accessing banking services.

Moreover many people from urban area prefer to use technology as a tool to access banking facility which shows that technology has a positive effect over the penetration of inclusiveness of financial banking system. As this survey was carried out over the population who previously had the bank account we could also say that even though the respondents used technology as a tool to access financial banking applications they themselves were also not very much confident about it in relation to security. (as per the graph below)

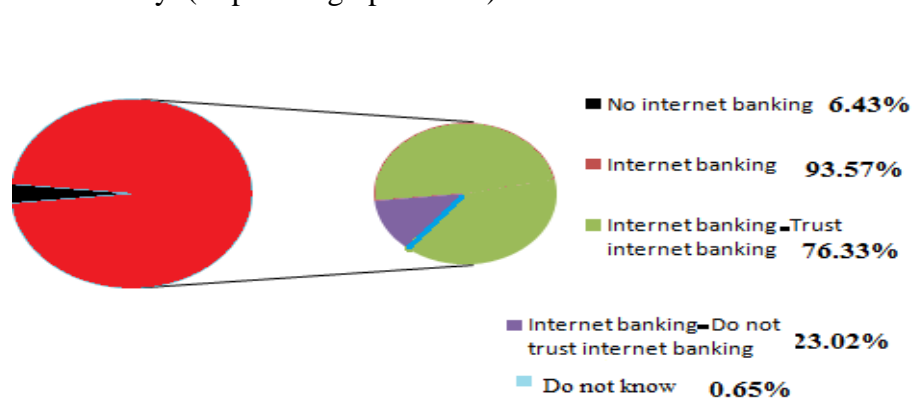


Figure1: Usage of internet banking with trust factor in usage of internet banking



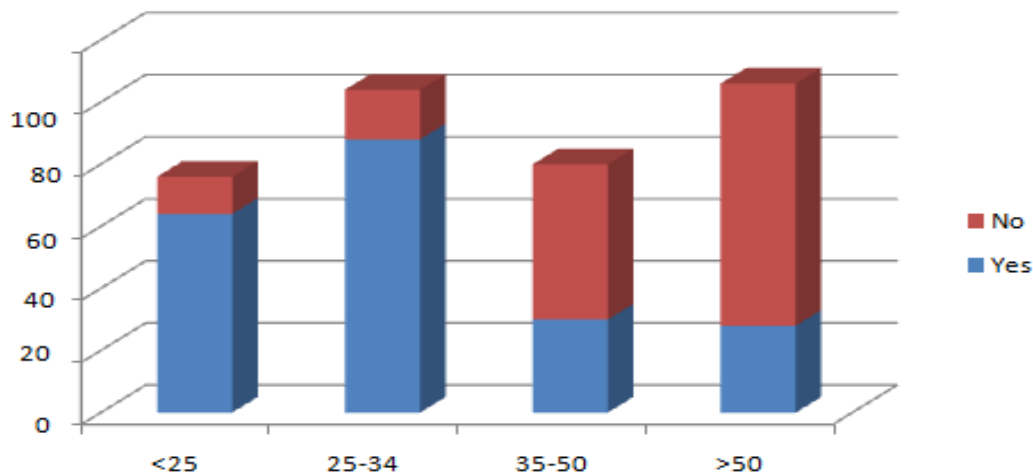


Figure 2: Age group using internet banking (Yes = people using internet for banking)

## LIMITATION AND FUTURE DIRECTIONS

Findings presented here in this paper have helped us to draw the conclusion that technology has changed the attitude of people towards banking, now people of urban population prefer to use net banking facilities with respect to be physically present in the banks. But this analysis can be taken a step further by learning the effect of demographics over this relationship; be it age or education or income background and analyze their mediating or moderating affect over this relationship. Another limitation of this study is that it has considered only urban population and ignored the rural population all together and their attitude towards technology and banking facility. Moreover there can be the extension of this study in the rural area and learn about their nature and attitude of inclusiveness in the system. This present research has an important application in present life; it will give us the idea about the attitude of people towards the system let it be security or usage of basic banking facility. This study can act as a pathway for further study of allied problems or issues related to the internet banking facility or virtual banking facility.

In the upcoming advancement era, technology plays a very important role in our daily routine. From the above tests we have seen that it is an important tool used by urban population to access the financial systems. Activities like creating FD, life insurance and other type of policies online, electronic fund transfers etc.; have created huge awareness among people and provided a hassle free platform to get work done from home. This has even reduced footfall in the banks and has resulted in the other fruitful activities by the bank employees. With the help of this paper a genuine attempt has been made to bring out the effect of technology over financial inclusion in urban population moreover its usage by people in daily life.



## **REFERENCES**

- Chang, H.-J. (1983). Conditions for successful technology policy in developing countries: Learning rents, state structures, and institutions. Maastricht, the Netherlands: United Nations University.
- Chang, H.-J. (2001). The market, the state and institutions in economic development. In H.-J. Chang (Ed.), Rethinking ICT role in economic development (pp. 41-60). London: Anthem Press.
- Clark, R. (2002). Reconsidering research on learning from media. Review of Educational Research, 53, 445-459.
- Cohen, D., & Hill, H. (2001). Learning and policy: ICT role and development. New Haven, CT: Yale University Press.
- Coley, R. (2003). Dreams deferred: Financial inclusion and economic growth. Princeton, NJ: Educational Testing Services.
- Collard, S., Kempson, E., Whyley, C., (2001), 'Tackling financial exclusion', Bristol: Policy Press.
- Kempson E., A. Atkinson and O. Pilley, (2004), 'Policy level response to financial exclusion in developed economies: lessons for developing countries', Report of Personal Finance Research Centre, University of Bristol.
- Leeladhar, V., (2006), 'Taking Banking Services to the Common Man - Financial Inclusion', Reserve Bank of India Bulletin.
- Thorat, U., (2007), 'Financial Inclusion-the Indian Experience', Reserve Bank of India, Bulletin, July, Vol LXI (7)
- Mohan, R., (2006), 'Economic Growth, Financial Deepening and Financial Inclusion', Reserve Bank of India Bulletin.
- Sarma, M., (2008), 'Index of Financial Inclusion', Working Paper No. 215, Indian Council for Research on International Economic Relations.
- Sarma, M., (2011) 'International trade and development', Dis.Paper No. 10, School of International Studies.
- Kumar Nitin (2013), 'Financial inclusion and its determinants: Evidence from state level empirical analysis in India', Reserve Bank of India Bulletin.