Emerging Role of IT enabled Systems in Financial Inclusion of India

Honey Gupta
Junior Research Fellow & Research Scholar, Faculty of Commerce,
Banaras Hindu University, Varanasi, U.P., Email: honeygpt25@gmail.com

Computing Trendz
6(2) 17-25
http://doi.org/10.21844/cttjetit.v6i02.11083

Abstract

Indian economy is occupying a key position and recognition around the globe. It is evident from its current position and growth rate that it has emerged as one of the strongest contender thriving to become a developed nation. But out of 130 crore population, 41 percent is still remains unbanked. Even empirical evidences support that financial inclusion and literacy are essential for inclusive growth of the country. The prime focus of the Government of India as revealed through the union budget from 2011 to 2015 has been the financial inclusion of the major population. The basic aim of financial inclusion is to provide banking and financial products and services that meet the following requirements- transactions, payments, savings, credit and insurance and delivered in a responsible and sustainable way at affordable cost to the unbanked population. Therefore, the present study examine the role of IT enabled systems in achieving financial inclusion objectives during the period from 2011-12 to 2016-17. The present study is descriptive in nature and is based on secondary data. The data has been collected from annual reports of RBI, reports of committees, research papers and articles. The present study concludes that due to the continuous efforts of the government and the banks, Indian economy is moving toward increased financial inclusion. IT enabled systems and banks have been playing a key role in financial inclusion in India. Financial Inclusion is an ongoing process which requires continuous and coordinated efforts from the Government, financial institutions, the regulators and the community at large to achieve 100 percent financial inclusion in the country. The study suggests that the banks should provide improved services to its customers and make it easily accessible by opening new branches as well as by upgrading their technology.

Keywords: *Financial Inclusion, IT enabled, ATM, Cards, Mobile Banking, m-Wallet, CAGR.*

Introduction

Over the period of time, financial inclusion has gained significant importance in the world because equitable access to finance by all the sections of the society helps in sustainable development of the economy. Even empirical evidences support that financial inclusion and literacy are essential for inclusive growth of the country. The basic aim of financial inclusion is to provide banking and financial products and services that meet the following requirements- transactions, payments, savings, credit and insurance and delivered in a responsible and sustainable way at affordable cost to the unbanked population.

Indian economy is occupying a key position and recognition around the globe. It is evident from its current position and growth rate that it has emerged as one of the strongest contender thriving to become a developed nation. But out of 130 crore population, 41 percent is still remains unbanked. Thus, financial inclusion has special significance for the developing countries like India. So, the prime focus of the Government of India as revealed through the union budget from 2011 to 2015 has been the financial inclusion of the major population.

The term "financial inclusion" is not new to India. Since the nationalization of banks in 1969 various initiatives have been taken by Reserve Bank of

India (RBI) to ensure proper access of financial services to the unbanked groups. The term was first used by Y. Venugopal Reddy, the ex- Governor of RBI in 2005 in the Annual Policy Statement presented by him, where the banks were asked to review their existing practices that tend to exclude vast section of the population and make them to comply them with the objectives of financial inclusion. The initiatives of financial inclusion with its greater focus on 'inclusive growth' have been emphasized in the Eleventh Five Year Plan (2007-2012) of Government of India. On February 2014, India's current Finance Minister, Mr. Arun Jaitley also emphasized on financial inclusion in his budget speech.

Financial Inclusion

The term has been used by different people in various aspects. According to the committee on financial inclusion of Government of India, financial inclusion can be defined as "the process of ensuring timely access to financial services and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at affordable cost" (Rangarajan Committee, 2008). Most of the literature has focused on the extent of availability of banking services to the unbanked section of the society. The access to financial services and products; financial capacity (managing money effectively, etc.); and financial literacy are the three key aspects of financial inclusion identified by Aynsley (2010). Thus, financial inclusion includes not only delivery of financial services to excluded population but also involves improvement in capability to use financial services as well as reducing any difficulties. Therefore, Mr. Raghuram Rajan, the ex-governor of RBI emphasized that Financial Inclusion is about (a) the broadening of financial services to those people who do not have access to financial services sector; (b) the deepening of financial services for people who have minimal financial services; and (c) greater financial literacy and consumer protection so that those who are offered the products can make appropriate choices.

Objective of the Study

The main objective of the present study is to examine the role of IT enabled systems in achieving financial inclusion objectives.

Research Methodology

The present study is mainly descriptive cum analytical, in its nature. The present study is based on secondary data which has been collected from various reports viz., Annual reports of RBI, Ministry of Finance, Government of India, Inclusive Finance India Report, research papers, articles and websites. The present study covers the time period from 2011-12 to 2016-17.Tables, charts, percentages and CAGR are the main tools used for the study.

Review of Literature

Singla (2013) highlighted the key benefits of financial inclusion and put forward that the lack of banking facilities in some villages, financial illiteracy, outdated technology, low level of income and cumbersome documentation procedure were the key challenges in way of financial inclusion. It was suggested to adopt various strategies for the financial inclusion such as adaptation of advanced technology, opening up the bank branched in rural areas, introduction of new saving schemes for low income people etc. Tamilarasu (2014) explained the role of banking sectors on financial inclusion development in India. The study recommended the banking sectors to open banks in the remote and rural areas so that all the people can utilize the services of the banking sectors at the level best. Though all the banks are installing the ATMs in all the places, but the changing policies and instructions for the using of the ATMs by RBI and bad condition of ATMs for immediate use has been an issue to be handled urgently. Gandhi (2013) explored the key issues and challenges in ICT based financial services. The study tinted upon Technology being the most cost effective and efficient way of achieving financial inclusion and spreading financial literacy both as a delivery channel and as an intrinsic part of the learning process (e.g., instructional computer). A number of technology options, such as, smart cards, micro-ATMs, ATMs, mobile technology, Aadhaar Enabled Payment Systems (AEPS), etc. are available to irrespective of the geographic locations. Thus, the study highlighted the urging need to resolve technology related issues is the key for the success of the ICT-based models. Trivedi (2016) examined the current scenario of financial inclusion in India. The study recommended the need of financial inclusion not only in rural areas, but also at urban areas as well with an emphasis on gender basis. Chauhan (2013)studied the overview of financial inclusion in India. The study concluded that India is at moderate level regarding financial inclusion as compared to other countries regarding number of branches, ATMs, bank credit and bank deposits. The study also said that there is a need of synergistic partnerships with technology service providers for efficient handling of all transactions and appropriate regulatory and risk management policies that ensure financial inclusion.

Financial Inclusion in India- Present Position

Various committees have already assessed the status of financial inclusion in India in terms of population's access to avail banking services. In Indian economy, where 68 percent of the population lives in rural areas, inclusive growth is a big challenge. Many studies have revealed that financial inclusion is one of the best ways to achieve inclusive growth.

Financial inclusion must be taken up in a mission mode under National Mission on Financial Inclusion (NMFI), which comprises of representation of all stakeholders for suggesting the overall policy changes required (The Report Committee on Financial Inclusion, 2008). Thus, RBI and Government of India both are making continuous efforts such as opening of no-frills account (with nil or low minimum balance), opening of branches in unbanked rural areas, relaxation of know your customer (KYC) norms, engaging business correspondents (BCs), use of technology, adoption of electronic benefit transfer (EBT), kisan credit cards (KCCs), general credit cards (GCCs), etc. to achieve financial inclusion in India. Recently, Indian Prime Minister, Shri Narendra Modi launched a scheme for comprehensive financial inclusion on 28th August, 2014 known as Pradhan Mantri Jan Dhan Yojana (PMJDY) with the prime objective of providing basic savings bank account for all households by 15th August, 2015 along with the facilities of remittance, Rupay Debit Card, overdraft up to Rs.5000 and accident and life insurance.

The following table 1 shows the position of households availing banking services over the decade 2001-2011.

Table.1 Position of Households Availing Banking Services

Areas	Total No. of Households		No. of Households Availing Banking Services		Percent	
	Census 2001	Census 2011	Census 2001	Census 2011	2001	2011
Rural	138,271,559	167,826,730	41,639,949	91,369,805	30.1	54.4
Urban	53,692,376	78,865,937	26,590,693	53,444,983	49.5	67.8
Total	191,963,935	246,692,667	68,230,642	144,814,788	35.5	58.7

Source: Department of Financial services, Ministry of Finance, Government of India

An analysis of Table 1 shows 58.7 percent of the households in India availed banking services as per data of census in 2011. Over the decade, the proportion of banked households rose by 23 percent along with the rise of 24 percent in case of rural areas, which was more as compared to urban areas (18 percent). During the period, there has been an increase of 112 percent or a compound annual growth rate (CAGR) of 7.8 percent in the number of households availing banking service.

Role of IT enabled Systems in Financial Inclusion of India

Technology plays an important role in financial inclusion. Various studies have suggested the use of technology to overcome the problem of delivery of services and high cost of services. Thus, Government of India and RBI has supported the use of technology (such as ATMs, Mobile Banking, Internet Banking, m-wallet, Debit and Credit Cards, POS etc.) by commercial banks to expand the banking facilities across the country.

Expansion of ATMs Network – Automated Tel Machines (ATMs) are one of the most rec technologies employed by the banks in Inc ATMs are the automatic cash dispensing machi which identifies the bank user through his card a password. To overcome the lack of branches rural areas and high transaction costs for banks urban areas; the banks were allowed to extend A facility to its customers. Off-site ATMs are m useful to increase the penetration than On- ATMs because it provides basic banking servi without even presence of full-fledged physi branches. The share of Off-site ATMs in the t number of ATMs of PSBs increased to 45.7 perc at the end of March, 2015 from 40.3 percent in previous year. The increase in the share of Off- ATMs in the total number of ATMs of SCBs a played an important role which increased to 5 percent in 2015 from 47.9 percent in 2014 (f Table 2).

Table 2: Position of ATMs Deployed by PSBs and SCBs

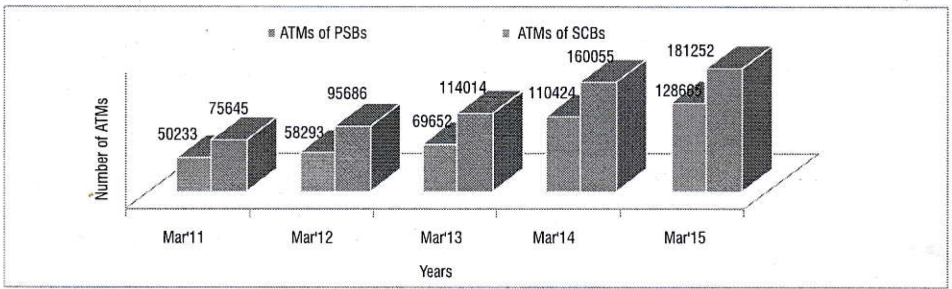
		Mar'11	Mar'12	Mar'13	Mar'14	Mar'15
Number of ATMs of Public Sector Banks (PSBs)	**Off-site ATMs**	20032 (39.9%)	24181 (41.6%)	29411 (42.2%)	44504 (40.3%)	58763 (45.7%)
	On-site ATMs	30201 (60.1%)	34012 (58.4%)	40241 (57.8%)	65920 (59.7%)	69902 (54.3%)
	Total	50233	58193 [15.8%]	69652 [19.7%]	110424 [58.5%]	128665 [16.5%]
Number of ATMs of Scheduled Commercial Banks (SCBs)	**Off-site ATMs**	34377 (45.4%)	48141 (50.3%)	58254 (51%)	76676 (47.9%)	92191 (50.9%)
	On-site ATMs	41268 (54.6%)	47545 (49.7%)	55760 (49%)	83379 (52.1%)	89061 (49.1%)
	Total	75645	95686 [26.5%]	114014 [19.1%]	160055 [40.4%]	181252 [13.2%]

Source: Department of Financial services, Ministry of Finance, Government of India

*The figures in percent in the table represent percentage growth over previous year

The table 2 shows that both PSBs and SCBs have increased their penetration with the total number of ATMs reaching to 128665 and 181252 respectively in 2015. The Figure1below shows that from 2011 to 2015, there has been increase in number of ATMs of PSBs and SCBs in India. However, there has been a decline in the growth of ATMs of both PSBs and SCBs. During 2014-15, PSBs have recorded a growth of 16.5 percent while SCBs recorded a growth of 13.2 percent in ATMs over the previous year.

Figure1: Total number of ATMs of PSBs and SCBs



Source: Author's Computation

The total number of ATMs of PSBs and SCBs witnessed a compound annual growth rate (CAGR) of 20.7 and 19.1 percent respectively during the period 2011-2015. As per RBI data, the shares of ATMs in rural and semi-urban areas have been rising. In 2015, about 44 percent of the ATMs were located in rural and semi-urban areas.

Distribution of ATMs – A study of bank group wise and region wise distribution of ATMs reveal that there has been significant increase in the number of ATMs all over the country, especially in rural and semi-urban areas.

Table 3: Bank- group wise and Region- Wise Distribution of ATMs

Banks	2013				2014				2015			
	Metro	Urban	Semi-Urban	Rural	Metro	Urban	Semi-Urban	Rural	Metro	Urban	Semi-Urban	Rural
Public Sector Banks	21,366	24,469	20,412	9,645	26,767	35,093	32,994	21,810	28,745	38,539	37,276	27,688
Private Sector Banks	18,115	13,742	9,664	3,190	19,163	14,535	11,394	3,982	21,052	14,870	11,908	4,327
Foreign Banks	968	228	20	28	903	201	20	32	630	208	21	32
Total	42,226	40,884	33,015	13,700	46,833	49,289	44,408	25,792	50,427	53,617	49,205	32,047

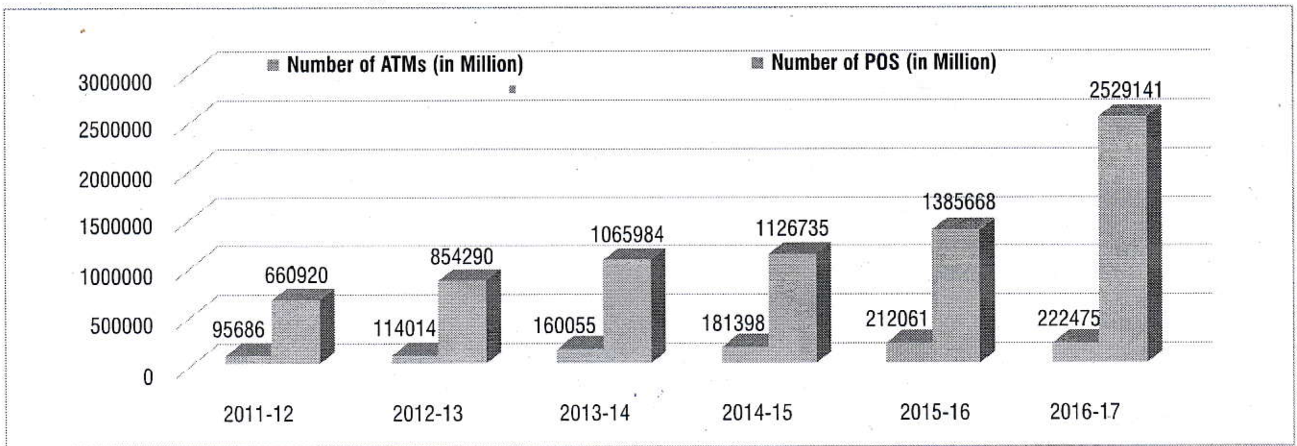
Source: Reserve Bank of India

An analysis of Table 3 reveals that among the bank groups, the Public Sector Banks have installed maximum number of ATMs in the country in comparison to Private Sector Banks and Foreign Banks. Thus, the Public Sector Banks has increased its penetration in the rural and semi-urban regions of the country through ATMs installation.

Point of Sale (POS) -ThePoint of Sale (POS) terminals are used for facilitating debit and credit card transactions. The total number of Point of Sale (POS) recorded a whopping 82.5 percent rise in 2016-17 over 2015-16, with an increasing rate c year on year growth rate. As a result c demonetization in 2016, the total number of Poir of Sale (POS) increased four folds and witnesse an excellent compound annual growth rat (CAGR) of 25.07 percent during the period of th study.

On the hand, the total number of ATMs witnessed declining rate of year on year growth rate of 4.9 percent in 2016-17 over 2015-16.While the tota number of ATMswitnessed a compound annua growth rate (CAGR) of 15.10 percent.

Figure 2: Number of ATMs and POS in India



Source: Author's Computation

The figure 2 indicates that there has been consistent positive growth in the total number of Point of Sale (POS) and ATMs.With the increase in number of Point of Sale (POS) outlets across the country, the economy has started moving towards the 'plastic money'.

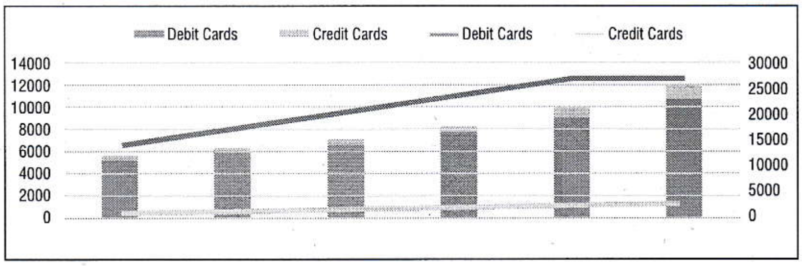
Debit cards and Credit Cards- Debit cards based transactions have become a very popular mode of payment as a result of initiatives of Reserve Bank of India. The table 4 and figure 3 clearly indicates that there has been consistent positive growth in the volume of Debit card based transactions. However, the value of Debit card based transactions saw a decline with -0.2 percent growth rate in 2016-17. It also indicates that there has been continuous positive increase in the volume as well as the value of credit cards based transactions in the country during the period of study.

Table 4: Debit and Credit Card – Based Payment Transactions

Year	Debit Cards		Credit Cards	
	Volume (Million)	Value (⍰ Billion)	Volume (Million)	Value (⍰ Billion)
2011-12	5409.45	14532.04	322.15	978.73
2012-13	5999.21 [10.9%]	17393.44 [19.7%]	399.13 [23.9%]	1243.93 [27.1%]
2013-14	6707.1 [11.8%]	20602.86 [18.5%]	512.03 [28.3%]	1556.72 [25.1%]
2014-15	7804.57 [16.4%]	23492.65 [14.0]	619.41 [21.0%]	1922.63 [23.5%]
2015-16	9247 [18.5%]	26960.63[14.8%]	791.67 [27.8%]	2437.02 [26.8%]
2016-17	10962.36 [18.6%]	26901.79 [-0.2%]	1093.51 [38.1%]	3312.21 [35.9%]

Source: Reserve Bank of India (RBI)

Figure 3: Trends in Debit and Credit Cards based Payment in India



Source: Author's Computation

Mobile Banking and Payments- Mobile Banking is one the services provided by banks to its customers in order to expand its business and to reach different level of customers. The rapid growth of telecommunication sector and its penetration in the rural population led to the introduction of mobile as a channel for offering financial services in the Indian banking sector. Thus, the Reserve Bank of India issued the guidelines on mobile banking in October, 2008.

Table 5: Trends in Usage of Mobile Banking

Year	No. of Users (million)	Volume (million)	Value (Billion Rs.)
2010-11	5.96	6.85	6.14
2011-12	12.96 (117.45%)	25.56 (273.139%)	18.21 (196.58%)
2012-13	22.51 (73.69%)	53.3 (108.53%)	59.9 (228.94%)
2013-14	35.53 (57.84%)	94.71 (77.66%)	224.38 (274.59%)
2014-15	60 (68.87%)	171.9 (81.50%)	490.29 (118.51%)
2015-16	-	389.49 (126.55%)	4040.91 (290.31%)
2016-17	-	976.85 (150.80%)	13104.76 (224.30%)

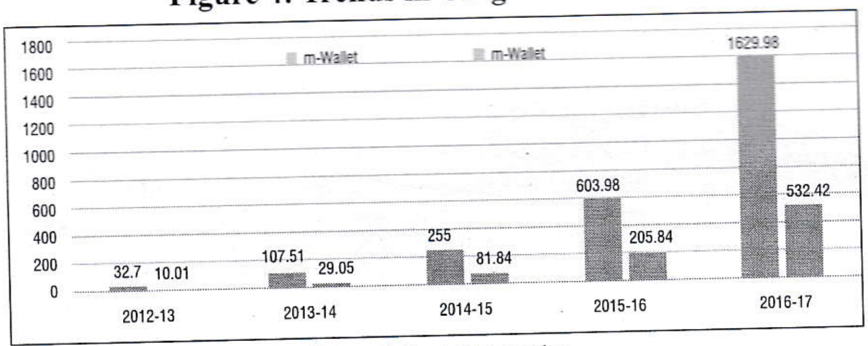
Source: Compiled from Reserve Bank of India

*The figures in percent in the table represent percentage growth over previous year

The Table 5 indicates that there has been positive trend of growth in the mobile banking users and transactions. During the period of the study from 2011-12 to 2016-17, there has been a compounded annual growth rate (CAGR) of 103.11% and 198.96 % in the number and value of transactions respectively.

m-Wallets-Mobile wallets such as BHIM, Payt has been emerging as the next best alternative card based transaction. The tremendous rate growth in the usage of m-wallets evidenced aft demonetization in 2016 (from Figure 4 and Tab 6).

Figure 4: Trends in Usage ofm-Wallets



Source: Author's Computation

Table 6: Growth in m-Wallets Transactions

Year	Volume (Million)	Y-oY Growth %	Value (₹ Billion)	Y-oY Growth %
2012-13	32.7	-	10.01	-
2013-14	107.51	228.78	29.05	190.21
2014-15	255	137.19	81.84	181.72
2015-16	603.98	136.85	205.84	151.52
2016-17	1629.98	169.87	532.42	158.66

Source: Author's Computation& Compiled from Reserve Bank of India

With the ever-rising internet and mobile penetration, the volume and the value of Mobile wallets based transactions increased massively around 50 and 53 times respectively, in 2016-17 as compared to 2012-13.

Findings

Following are the major findings:

- During the period of study, the number of ATMs of PSBs and SCBs increased significantly to reach the unbanked areas of the country.
- There has been significant rise in the number of ATMs of all the banks in the rural and semi-urban areas, especially the ATMs of Public Sector Banks during the period of the study.
- During the period of study, there has been positive growth in the debit card and credit card based transactions.
- There has been massive increase in the number of POS, the value as well as volume of mobile banking and m-wallets based transactions.

Conclusions

It can be concluded from the study that due to the consistent and continuous efforts of the banks by expansion of branch and ATM network in rural areas and extensive use of IT enabled Systems in unbanked areas, the banked population of the country reached 59 per cent. In India, progress has been made in the positive direction towards financial inclusion but still more is to be done as 41 percent of the population still remains unbanked. The adoption of technologies by the banks to attain increased penetration in rural areas also faces multiple challenges in the developing country like India such as illiteracy, poor infrastructure, inadequate internet penetration, etc. Thus, Financial Inclusion is an ongoing process which requires continuous and coordinated efforts from the Government, financial institutions, the regulators and the community at large to achieve 100 percent financial inclusion in the country. The study suggests that the banks should provide improved services to its customers and make it easily accessible by opening new branches as well as by upgrading their technology.

Limitations of the Study:

Following are the major limitations of the study:

- The study has taken into consideration major factors but there are many other factors and issues which have not been discussed due to time constraints as well as unavailability of data.
- The study is limited to the time period of six years,from 2011-12 to 2016-17.
- The study mainly depends upon the published secondary datawhich was assumed to be reliable.

References

Anysley, H. (2010). Financial Inclusion and Financial Capability: What's in a Name? Retrieved from https://www.tonybeehall.org.uk.data/files/Services/FinanciaIInclusion

Singla, Vivek. (2013). Financial Inclusion- Financial Services forEveryone. International Journal of Reviews, Surveys and Research (IJRSR), 2(2), 1-10.

Tamilarasu, A. (2014).Role of Banking Sectors on Financial Inclusion Development in India – An Analysis. GALAXY International Interdisciplinary Research Journal (GIIRJ), 2 (2), 39-45.

Gandhi, M. M. (2013).Financial Inclusion in India Issues and Challenges. International Multidisciplinary Journal of AppliedResearch, 1(3), 12-22.

Tridevi, Anjali. S. (2016).Reality of Financial Inclusion: India. IJRAR- International Journal of Research and Analytical Reviews, 3(3), 87-92.

Chauhan, Apurva A. (2013). A Study on Overview of Financial Inclusion in India.Indian Journal Of Applied Research, 3(12), 351-353.