
ROLE OF INFORMATION TECHNOLOGY IN INDIAN RETAIL BANKING

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Abstract

The main objective of this paper is to understand the role of Information Technology and to study the performance of banks in Retail Banking in India. This paper highlights that banks in India adopt specific strategies for Retail Banking and Information Technology plays a significant role in Retail Banking. Banks were chosen after grouping them according to their size of business and then proper representation of all ownership groups were ensured by random selection. Bank Officers were chosen as respondents for the survey and they were chosen by purposive sampling based on availability and accessibility

Keywords: Information technology, Retail banking, performance etc.

Introduction

Retail Banking has assumed great significance for banks in India, since the other two major segments are highly volatile and do not offer an assured rate of return for banks to take comfort from. The last segment, namely, Other Banking Operations do not normally contribute substantially to the banks' revenues, with the exception of a few banks. The potential for profits and business growth in Treasury and Corporate Banking is limited when compared to the scope for Retail Banking. Retail Banking is not complete until every citizen has a bank account and there is no single household in the country without a bank account. The Census of India, 2001 found that less than 35.5% of the total households in India were being served by banks in 2001, of which 30.1% were in rural areas and 49.5% were in urban areas. Within 10 years, from the 2011 Census, we see that the households covered more than doubled from 682.31 crores to 1448.15 crores. The percentage of households covered also registered a sharp increase of 23.20% moving from 35.5% to 58.7%. And the geographical distribution of these banked households also shows a healthy trend with 54.4% being rural and 67.8% urban moving up from 30.1% and 49.5% respectively.

Retail Banking in fact would help improve the standard of living and financial security and safety of the large number of families and individuals who are yet to be brought into the banking system. They will have a reliable source to park their savings and also a benign source of funding to meet their needs and economic aspirations. Retail Banking would contribute to the overall economic development of the nation by working at the grassroots level – the individual and the family. Their development would again result in more retail banking business. Retail Banking is less risky than corporate banking since the risks are diversified across a large number of accounts with small exposure limits, with interests rates that are much higher than what is charged for big business.

Financial Inclusion, the focus of the Govt. of India for over a decade now, is aimed at bringing in unbanked households and individuals into the banking system without any discrimination. It has gained sufficient steam and momentum to the extent that banks have now deployed Business Correspondents(BCs) to take banking to the door steps in even the remote villages where a bank branch cannot be opened immediately. The latest programme of the Govt. of India, the Jan Dhan Yojana (JDY) is another major boost for the Financial Inclusion drive. Crores of bank accounts have been opened in a short period under the JDY.

With this backdrop – the need, the compulsion and preeminent business sense that demands a bank's focus on Retail Banking – an overview of the performance of banks in India (The domestic Scheduled Commercial Banks which constitute over 90% of banking business in India) is presented. This would also highlight the extent of development that has taken place in Retail Banking in India and the headroom available for further development and growth – lot of ground, yet to be covered by banks. As per the 2011 Census of India, 41.3% of households in India are yet to have access to a Bank Account.

The Indian Economy entered a critical phase in 1991, and opened itself up for privatization, liberalization and globalization, as there was no other choice. Banking was the most important sector which faced this huge challenge of drastic change. The impact of change within the next ten years was so deep and disturbing that it led to many banks becoming weak and vulnerable, almost overnight, as it were. The protected markets vanished into thin air. Interest rates were deregulated and fierce competition set in. The fight for survival became the upper most instinct among banks and the word “Profit” suddenly shed all the dirtiness around it, especially for the public sector banks. With the growing competition and the consequent stiff fight for survival, banks have now come to realize that the corporate sector has lost much of its potential for deposits and loans at attractive terms. The focus turned on the retail sector. The need for focusing our research efforts on the growth and development of Retail Banking is more than justified by the body of work already available on various aspects of this dimension of banking. What is lacking of course is research work and

output focused specifically on Retail Banking in the Indian context that takes a comprehensive look at the factors responsible for its growth and development. There are quite a few challenges for banks in developing their retail banking business. Notable among them are: consumer protection and pricing, inadequate and incomplete data on customers, compliance issues of fronts like Know Your Customer (KYC) and Anti-money Laundering (AML), managing risk in retail banking. Consumer protection measures are slowly but steadily being strengthened by the law makers and regulators. This would increase expectations from banks for more transparent pricing, less discrimination between various customer groups, improved operational efficiency to reduce costs and so on. All these are more natural and appropriate at the policy level but have huge impacts and constraints at the operational level.

Inadequate data and incomplete knowledge about the customer is a persistent and major hurdle that comes in the way of proper customer segmentation and more accurate and cost-effective targeted marketing of a bank's retail banking campaign. Compliance issues on the KYC and AML fronts call for technology solutions that need constant up gradation and maintenance and have financial implications too. They also entail operational overheads to adequately fall in line with the compliance requirements. Very few research studies have been undertaken on the rapid strides made in retail banking in India. The secondary data available on the performance of banks provides an impressive picture of the tremendous growth achieved in Retail Banking in India.

Literature Review

K.C.Chakrabarty also explains further the characteristics of Retail Banking (p.6): According to him, retail banking products and services should be standardized i.e. there should be uniformity, transparency and non-discrimination. And, since retail banking products are offered via multiple delivery channels and at multiple locations, banks should target efficient service delivery. Banks also need to have appropriate systems, structure, manpower and processes in place to deal with the group, group characteristics, group behaviour, and group dynamics for the target clientele."

Shyam Ji Mehrotra (2004) says that focusing on the Generation Next (350 million young Indians in the age group of 15-34), bringing in the un-banked customers, brand building, cross-selling and up-selling, product innovation, personal and consumer durables financing, housing loans and holiday financing, bancassurance products and fair practices codes will form part of the major challenges and opportunities for banks in retail lending.

S.B.Singh (2004) talks about the emerging issues of cost, convenience and compatibility in retail banking and emphasizes the need for cost-effective and innovative retail products targeted at specific customer segments to generate adequate revenue for banks.

Mariappan. V (2005) analyses why technology has been used as a strategy to win market and customer and raises relevant questions that point to this growing trend.

Sarkar. A.N (2005b, p.310) enumerates the growth drivers of retail banking: shift in the pattern of GDP from agriculture and manufacturing to the services sector, growing middle income segment and their ever-rising income levels, emergence of new sectors like Information Technology (IT) and IT Enabled Services (ITES), conducive role played by the Reserve Bank of India by including housing loans under the priority sector lending accompanied by a reduction in Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR), catalytic role played by the Govt. of India by increasing tax exemption limits for payment of interest on housing loans and the banks' own initiatives like modernization, competitive rates for retail loans, tie-up with insurance companies for banc assurance, waiver of processing fees etc.

Amit Singhal and Bikram Duggal (2002) argue that the advent of the new economy necessitates revisiting our understanding of banking and our perception of delivery mechanisms... modern technologies such as the internet and smart cards will not be effective in the true sense unless certain significant changes in the policies and regulations governing their implementation are made. Further necessary steps need to be taken to bring the banking community to a common platform through which mass scale usage of banking services can be achieved.

Chakrabarty K C (2013, p. 9) underlines the renewed interest in and emphasis on Retail Banking. He says that, initially, the focus of policy makers was on ensuring the movement of bank funds to industrious sectors of the economy. But eventually, as the industrial and infrastructure sectors' demand waned, the regulators became more accommodating to allow banks to lend even for the purpose of consumption. The second change that provided a boost to banks' retail banking aspiration is the advent of technology. Since retail banking needs mass production techniques, technology has enabled the banks to design suitable technology-based delivery channels. Retail banking has also received a push from the policymakers' for inclusive growth in the wake of the global financial crisis.

The Governments across the world view banks as the key component in furthering the cause of financial inclusion. We, in India, have also been promoting a bank-led financial inclusion model and view retail mass banking as the stepping stone towards achievement of universal financial inclusion. The last, but not the least of the reasons for the growing interest in retail banking is the banks' quest for new sources of revenue and new channels for profit. Slowly but surely, the banks have realized that the commerce for the poor anywhere in the world is more viable than the commerce for the rich and hence they view the excluded masses as a potential source of profit in the long-run. Commercial banks cannot ignore the adage that the "Future of Banking is Retail Banking." The Survey of existing Literature reveals that there is a research gap in understanding the factors that determine the growth of Retail Banking in India. This

study is an attempt to fill this gap. The secondary data shows that there has been a substantial growth in Retail Banking in India. More importantly this segment of banking has now become the mainstay for even the leading banks in the industry for revenues on a sustainable basis. Things have come to such a pass that we concur with the adage "The Future of Banking is Retail Banking." With such a predominant role in the current growth and future survival of the banking industry as a whole, in India, Retail Banking richly deserves to be studied closely so that we can understand the factors that are essential for making Retail Banking more effective.

Research Methodology

Objectives of the Study: To understand the role of Information Technology in Retail Banking in India and to study the performance of banks in Retail Banking in India.

Hypotheses of the Study: The following hypotheses were tested using various statistical tools: H1: Banks in India adopt specific strategies for Retail Banking.

H2: Information Technology plays a significant role in Retail Banking.

Sample Size and Sampling Technique : Banks were chosen after grouping them according to their size of business and then proper representation of all ownership groups were ensured by random selection. Bank Officers were chosen as respondents for the survey and they were chosen by purposive sampling based on availability and accessibility.

Sampling Technique: Banks have been first grouped size-wise into four groups, Largest, Large, Mid-sized and Small. Then banks were chosen from these groups randomly to represent their ownership grouping as follows:

Table 1: Sample Selection – Banks

Bank Groups	Total	Selected	Sample %
Ownership – Wise Grouping			
State Bank Group	6	1	16.67
Nationalised Banks	20	4	20.00
Old Private Sector Banks	13	3	23.07
New Private Sector Banks	7	2	28.57
Size-wise Grouping (Total Business in Lakhs of Crores, as on March 31, 2013)			
Largest Bank Group (Over 9 Lakhs)	6	1	16.67
Large Banks (Above 3 and Below 9 Lakhs)	15	3	20.00
Mid-sized Banks (Above 1 and below 3 Lakhs)	11	3	27.27
Small Banks (Less than 1 lakh Crore)	14	3	21.42

Sample size: The study confined itself to Scheduled Commercial Banks (SCBs) in India. The 46 SCBs were first grouped according to their business size and then 10 banks were finally chosen factoring in their ownership grouping also. From these 10 banks a total sample size of 315 officers were responded. For this universe of bank officers, the

sample size used in the study is more than sufficient to arrive at reliable conclusions with a confidence level of 95% with a margin of error of 5%.The survey was conducted online using Google forms. The profile of respondents in terms of their position and experience in banking is described in the tables here.

Around 7% of the respondents have over 30 years of experience in Banking and 10% of respondents have experience between 20 and 30 years, 26% of respondents have experience ranging from 10 to 20 years, 38% of respondents have experience ranging from 5 to 10 years and only 20% of respondents have less than 5 years of experience. Since IT plays an important role in Retail Banking, it is an appropriate strategy to have IT Governance mechanisms in place in the bank. In fact, it is a recommendation from RBI that IT Governance is a board level responsibility and there should be separate sub-committee of the Board, named IT Steering Committee for this purpose, since large project involving hundreds of crores of rupees are being managed and operated by banks. More than 90% of the respondents have affirmed that they have IT Governance mechanisms in place in their banks. This is a major reason for our not seeing frequent or major breakdowns in the IT infrastructure in banks in such a way that they affect the banks' business seriously. The Hypothesis that Banks in India adopt specific strategies for Retail Banking, is, therefore, Accepted.

Analysis & Discussion

Information Technology Enabled Retail Banking: Mariappan. V (2005) said that technology has been used as a strategy to win market and customer and highlighted this growing trend. Retail Banking cannot survive, let alone grow, without the bank offering 24/7/365 banking service across as many electronic delivery channels as possible. This paper highlights the fact that out of the fourteen products in the Retail Basket, six of them (43%), namely, Debit Cards, Demat Accounts, Credit Cards, Mutual Funds, Online Trading, and Co-Branded Cards are Information Technology (IT) Enabled Products. Apart from the fact that entire banking is supported by IT through the Core Banking Solution (CBS), these specific products cannot be offered without IT support at the bank level. And we can call them IT Enabled Products (TEBPs).

Table 2- Information Technology Support for Retail Banking

Sl. No	IT Governance Processes in place for	Survey Responses					Total
		SA	AG	NA	DI	SD	
1	IT Infrastructure Maintenance	61	232	10	10	2	315
2	IT Infrastructure Monitoring	160	136	10	9	0	315
3	IT Infrastructure Development	140	146	13	16	0	315

The responses (Yes or No) reveal that ATM, Internet Banking and Utility Bill payments through Net Banking are offered by all banks. And all the other services are being offered in the range of 75 to 96% across banks. It is worthwhile to note that out of the 15 technology enabled services under 5 major heads, except ATM (provided by the bank/s themselves) all the other services require technology deployment at the customer end. For this the customer should either own the device or should share a

device provided by a third party like the cyber cafe, somebody else's smart phone etc. These service delivery channels, away from the brick-and-mortar base channel, are all technology enabled. And this is the speciality of Retail Banking, as it has evolved now: all the services are IT enabled, with more than 80% requiring technology adoption at the customer end. These ITEBS bring a host of conveniences to the customers like anywhere, anytime, low-cost access to banking services. This is one of the major reasons for the faster development of retail banking, especially among the tech-savvy young adults in the organised sector in a relatively faster growing economy like ours.

Table 3- Information Technology Enabled Banking Services being Offered

No	Product		Yes		No		Total
			Number	%	Number	%	100%
1	ATM		315	100	0	0	315
2	Internet Banking		315	100	0	0	315
3	Phone Banking		297	94.3	18	5.7	315
4	Net Banking for	Utility Bill Payments	315	100	0	0	315
		Railway Tickets	298	94.6	17	5.4	315
		Air Tickets	295	93.6	20	6.4	315
		Online Shopping	294	93.3	21	6.7	315
		Bus Tickets	292	92.7	23	7.3	315
		Movie Tickets	282	89.5	33	10.5	315
5	Mobile Banking on	SMS	300	95.2	15	4.8	315
		Android	291	92.4	24	7.6	315
		IoS (Apple)	254	80.6	61	19.4	315
		Windows	247	78.4	68	21.6	315
		USSD	246	78.1	69	21.9	315
		WAP	242	76.8	73	23.2	315

As such, with 43% of the products IT enabled and 100% of all the delivery channels being dependent on IT, the significance of the role played by IT in retail banking need not be emphasized any further. Moreover, even the brick and mortar Branch, the basic and only delivery channel for banking services, not so long ago, just two decades ago, to be precise, cannot function without direct connectivity with the Bank's data centre for offering even the simplest of services like balance enquiry or cash withdrawal. In fact, the entire bank, not just Retail Banking, relies on IT support for its day to day functioning. Hence, the need for managing IT well in the bank assumes great significance.

Table 4- Information Technology Support for Retail Banking

Sl. No	Processes in place for	Survey Responses					
		VE	EF	NE	IN	VI	Total
1	Delivery Channel Management (DCM)	129	124	50	5	7	315
2	IT Operations and Maintenance	99	144	63	2	7	315
3	IT Outsourcing & Vendor Management	80	148	68	11	8	315
4	IT Security Management	122	152	37	2	2	315

VE- Very Effective, EF- Effective, NE - Neither Effective Nor Ineffective, IN- Ineffective, VI –Very Ineffective

Over 80% of the bank officers surveyed are convinced that the Delivery Channel Management (DCM) process in their banks are Effective (Very Effective 41%, Effective 39%). This is a very crucial part of retail banking operations. Any hiccups in DCM would deprive a large part of the country or customer segments access to banking operations and services. The negative fallout of the impact would also be very severe. That is why banks do not even hesitate to spend a little more money, if necessary, to keep all the Delivery Channels in real time active service mode with sufficient redundancy at all levels and proactive alarms and alerts to take remedial action in quick time to set right occasional breakdowns as and when they occur. IT systems operations and maintenance similarly has got a score of 77.30% for being Effective (Very Effective 31% and Effective 46%). It is common knowledge that maintenance teams do not always get very good recognition and appreciation, normally. They come into the picture when things go wrong and have no visibility when things are all fine. The fact that the respondents have given such a high rating is an indication of the full realisation on their part of the crucial role being played by IT in the entire banking system, not just in retail banking. It is also an indication that the respondents have attached that much value to this survey to be so sincere and forthcoming in their assessment of the role of IT in their bank's survival and growth. IT outsourcing and vendor management is another complex responsibility for the bank. Since banks are using very large, complex, real time, sensitive, extremely critical and highly capital intensive IT systems, it is just not possible for them to manage all these IT systems on their own with the help of bankers trained in IT. All that the banks could do is to get small batches of their officers trained sufficiently enough to understand and monitor the operations of these large and complex IT system and infrastructure. In fact we are reaching a stage where IT companies are being seen by banks not as rank outsiders but welcome partners in progress for a long haul, with a mutually beneficial collaborative outlook. That is why even in this area which involves a little bit of friction and conflicting viewpoints, the respondents have expressed their satisfaction to a great extent, over 72% for the processes being effective, (very effective 25%, effective 47%). IT Security policies and processes have scored a positive response of over 87% (Very effective 39% and effective 48%) in this IT Segment. This is a clear manifestation of the importance attached to IT Security. Any breach in IT Security would have far reaching consequences and the rank and file of bank officers and staff have been adequately sensitised on this. Apart from business disruption and possible losses, IT security failures or breaches invite unwanted negative publicity and also invite disproportionate penalties from regulatory agencies on various counts. This is the reason why banks do not want to be on the wrong side of IT security. And this gets fully reflected by the responses from this survey. Overall, the rating of effectiveness of IT support for Retail Banking is around 80% in this survey. This is a high score, from user groups, for a maintenance and support function that is so significant and crucial. A clearer picture of the role of IT in retail

banking especially with the customer's adoption and usage of technology enabled products and services can be seen by the growth in volumes and value of customer transaction using Debit and Credit Cards over the last ten years.

Table 5- Growth in IT Enabled Electronic Payments in Retail Banking

Electronic Payments Indicators		April 2009	April 2014	CAGR%
	Number of ATMs	75645	162543	16.53
Debit Cards	Number of Cards	140.55	399.65	23.25
	Number of Transactions	12.05	610.30	119.25
	Value of Transactions	17.78	1,830.31	152.64
Credit Cards	Number of Cards	24.37	19.23	-4.63
	Number of Transactions	18.54	46.74	20.31
	Value of Transactions	49.32	147.40	24.48

Source: RBI – Payment System Indicators – www.rbi.org.in

The Debit Card transaction volumes have grown from 12 million to 610 million between April 2009 and April 2014 at a phenomenal CAGR of 119.25%. And the value of Transactions have grown from 18 billion INR to 1830 billion during the same period with a still higher CAGR of 152.64%. Debit card being the most important and fundamental instrument for all customers in retail banking, this is a clear proof of the role of technology enabled growth in retail banking product usage and ubiquitous service availability.

Credit Card transaction volumes have also grown from 18 to 46 million with a CAGR of 20.31% and the value of transactions has grown from 49 to 147 billion INR with a 24.48% CAGR. There is a decline in credit card numbers and this must be due to consolidation by all banks which went overboard in issuing credit cards and got into bad debts on a large number of defaulters, following the economic crisis after 2008. The important and intrinsic role played by IT in Retail Banking is also statistically established in the next section on Statistical Analysis. It is found from the Regression Analysis that Technology Support has a direct, predictable impact on Retail Banking Performance, along with strategy, risk management and service delivery to the extent of 67.1%. It is also found that Technology Support along with service delivery can have a predictable impact of 57.7% on the overall Quality of Retail Banking. The hypothesis (H2) that Information Technology plays a very significant role in Retail Banking, is therefore, Accepted.

Table 6- Predictable Impact of IT Support on Retail Banking Performance and Quality

SI No.	Independent Variables/Inputs	Extent of Impact and Predictability	Dependent Variable/Output.
1.	Strategy, Technology Support, Risk Management and Service Delivery	67.1%	Retail Banking Performance
2.	Strategy, Technology Support, Risk Management and Service Delivery	64.2%	Retail Banking – Overall Quality

3.	Strategy Technology Support, Risk Management and Service Delivery	63.6%	Retail Banking – Overall Quality
4.	Technology Support and Service Delivery	57.7%	Retail Banking – Overall Quality

Scope of the Study

The study seeks to explore the Retail Banking strategies and practices being followed by banks in India to understand their impact on the extent to which banks have been successful in this business segment. Based on this study, an attempt is being made to determine the factors responsible for development of Retail Banking in India, from the perspective of practising bankers themselves. The study covers only the domestic Scheduled Commercial Banks in India and the foreign banks are not included in the scope of this study due to constraints of time, accessibility and availability of respondents. Moreover they account for less than 5% total banking business in India.

Conclusion

This study has found that out of the fourteen products in the Retail Basket offered by banks, six of them (43%), namely, Debit Cards, Demat Accounts, Credit Cards, Mutual Funds, Online Trading, and Co-Branded Cards are Information Technology(IT) Enabled Products. Apart from the fact that entire banking is supported by IT through the Core Banking Solution (CBS), these specific products cannot be offered without IT support at the bank level and we can call them IT Enabled Products (TEBPs). In the Technology Enabled Services in Retail Banking, it is found through this study that ATM, Internet Banking and Utility Bill payments through Net Banking are offered by all banks (100%). And all the other services are being offered in the range of 75 to 96% across banks. It is worthwhile to note that out of the 15 technology enabled services under 5 major heads, except ATM (provided by the bank/s themselves) all the other services require technology deployment at the customer end. These five Delivery Channels are so important for Retail Banking customers, that the banks are taking enough steps to maintain and monitor their IT infrastructure to support them: ATM, Internet Banking, Phone Banking, Net Banking Access for third party transactions online Mobile Banking. It is also a fact that the Debit Card transaction volumes have grown from 12 million to 610 million between April 2009 and April. And the value of transactions has grown from 18 billion INR to 1830 billion during the same period at an explosive growth rate. Debit card being the most important and fundamental instrument for all customers in retail banking, this is a clear proof of the role of technology enabled growth in retail banking product usage and ubiquitous service availability. Credit Card transaction volumes have also grown from 18 to 46 million with a CAGR of 20.31% and the value of transactions has grown from 49 to 147 billion. It is confirmed with all these inputs that Information Technology plays a significant role in Retail Banking in India. Use of IT is so pervasive that retail banking and IT cannot be thought of in isolation.

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