

Abstract

The Indian banking sector has undergone significant transformation during last two decades. Economic reform, advent of Information Technology & emerging middle class group has resulted greater demand of banking & other financial services. Present banking scenario is totally customer driven & technology oriented which has rapidly improved the efficiency, productivity & profitability of banks. The unprecedented growth of information technology has led to an intense competition in this sector. The rapid adoption of technology is the strong reason for providing services electronically all over the world. Electronic fund transfer, Electronic Data Interchange, Real Time Gross Settlement & Net banking has made sea changes in performance of banking operations in term of immediate fund transfer, account balance, account opening & efficient cash management. Although the e-banking has the great potential to support banking business but it also has a dark side which reflect by lack of security, high initial infrastructure cost & illegal access of data. The concerned banks should pay serious attention to make use of available technology for ensuring security & preventing unauthorized access by firewall encryption, filtering routes etc. to expand their business. Private & foreign banks have a robust automated banking environment whereas nationalized banks are unable to evolve as the same. Several banks have become one stop service providers with variety of product range including transactional service, investment services, bill payment, bookings electronically. Thus various banks are investing in automation to cater their customers by speedy services at cheaper rate. Electronic banking as an emerging technology for commercial world is widely demanded by people, companies and various other organizations. For any electronic transactions banks should use reliable methods to verify and identify these operations to save the interest of customers. Although the policies of the Reserve bank continued to oriented towards promoting orderly development of the payment system functioned in an efficient and secure manner, it is essential for banking business to confirm that a particular communication, transaction, or access should reliable. For leveraging the role of information technology in enhancing the proper operations of financial system, the RBI undertook important steps covering IT infrastructure & implementation of new applications.

Introduction

With the complex methodology of competitive business evolved over the information technology base, different issue are also raised in various aspects. The ease and availability of rapid services has been improving business of this sector; that has led to this new revolution of electronic banking. Thus the policy makers & providers should protect customers against fraud & unlawful means. If banking does not provide the confidence to e-banking users that their data are safe from unauthorized access, they will be unlikely to use the e-banking on a regular basis. Secure and reliable telecommunications networks increase the profitability & reputation of the bank in the market. This research paper aim to examine the impact of electronic banking on banking business in developing country like India. It also focus on various issue, implications & methods regarding security & confidentiality matter.

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Objective: The various objectives of the study under the impact of e-operations on Indian banking business are as follows:

- (i) To analyse the viability & prospects of e-operations in developing country like india where banking awareness is low in rural area.
- (ii) To judge the performance of e-operations & its impact on Indian banking business.
- (iii) To find out the various measures to be taken for effective application of e-operations in India.

Hypothesis: The following hypothesis has been taken on the basis of area of research work to prove the cause & effect relationship between e-operations & banking business in India.

H0-There is no significant impact of e-operations on Indian banking business.

H1- There is a significant impact of e-operations on banking business in India.

During last few decades focused attention has been paid to render an efficient customer service in banking sector. In order to this several initiatives has been taken by Reserve Bank of India by disseminating guideline relating to customer service, incorporating various issues such as operations of account, disclosure of information, levy of service charges, remittances & settlement of claims. Banks have been advised to put disclaimer on the monitor when customer are using internet banking to avoid frauds. Banks are also advised to conduct updated, safe secure & authorized payment & settlement system that encouraged participants to shift from paper based system to e-banking system which provide faster & safer electronic mode of settlement by enhancing profitability of banks. The Retail electronic payment system, Electronic clearing services (ECS), Electronic Fund Transfer (EFT) & Real Time Gross Settlement system (RTGS) & card payment system are now available in India. In this computer era almost all banks have computerized their operations to facilitate speedy transfer of money all over the world. It maximize safety, security & accessibility. In recent time almost all bank branches are computerized.

The Figure I exhibit the journey from paper based transaction to electronic based transaction under which in term of value, the paper based transaction has reduced by 12 percent during 2009-10 to 2010-11. Where as the e-based transaction registered an increase by 16 percent.

National Electronic Fund Transfer

This is the centralized version of Electronic Fund Transfer introduced in the year 2005 enable the funds to be transferred electronically which is very suitable mode of payment with nominal charges. Although RTGS is online transfer of fund whereas NEFT involve four settlement cycle in a day but NEFT helps in fast transfer of fund from one branch to another without any delay. The Reserve Bank received messages within each settlement, consolidated & distributed to payee's bank. To strengthen this system a Customer Facilitation Centre has been created for quick resolution of customers problems.

Between end-March 2009 and end-September 2009, the branch network of national electronic funds transfer (NEFT) enabled banks increased from 54,200 to 60,839 and the RTGS enabled branches increased from 55,000 to 60,144. The average number of daily transactions handled by the RTGS network increased from 80,000 to 90,000.

Electronic Fund Transfer

In order to facilitate faster transfer of funds within specified area & to ensure efficient customer service RBI introduced Electronic Fund Transfer system. It is an computerized system which enable the remitter to approach his bank to make payment directly from his own account to bank account of the receiver. It required bank name, city branch number & account type etc. Now this facility is becoming very popular across the country. The fund transfer made on the same day or at the most next working day depending upon time of request. It provide:

- (i) 24 hours speedy Efficient & easy accessible services.
- (ii) Intangible transfer mode without any manual work.
- (iii) No requirement of physical presence of remitting customer or beneficiary.

Electronic Clearing Services

Electronic Clearing System facilitates easy bill payment or receipt in the bulk of amount especially useful for the organizations, companies & government to pay/receive large volume of funds in a very short period.

(a) Electronic Clearing Service Debit: It enable a consumer or company to make payment directly in to the account of beneficiary from his own bank

account. Most of the companies are availing this service having repetitive nature such as electricity companies, telephone companies & some other institutions receive fees through this system.

(b) Electronic Clearing Service Credit: It helps the entity to make payment through its bank to number of recipients to their bank account. Several companies are using this facility to make payment of interest & dividend. Various Institutions & banks make salary payment through the ECS credit.

Real Time Gross Settlement

It is an interbank fund transfer system which is considered as fastest money transfer facility through banking channel. The beneficiary branch receive the fund in the real time as soon as funds are transferred by the remitting bank. The minimum limit of amount transferred through RTGS is Rs. 2 lakh but there is no maximum limit. The Reserve bank send message to remitting bank that money has been sent to receiving bank & then receiving bank credit beneficiary account within 2 hours of receiving funds. The Indian Financial System Code (IFSC) helps to maintain secrecy in the transactions. As on 31st march 2008, 52000 bank branches were RTGS enabled.

e-Operations Annual Turnover

The Table I shows a rapid increase in the use of e-operations in the banking system. The volume of RTGS swelled in volume from 33.2 million in the year 2009-10 to 49.3 million in 2010-11 which shows a sharp increase of 48.5 percent. The EFT & NEFT Transaction changed from 66.3 million to 132.3 million registering a growth of 100 percent during 2009-10 & 2010-11. Total Retail electronic clearing also increased by 92.6 million that showed 29.5 percent increase during the year.

e-Cash & e-Cheque

e-Cash is a form of digital money that plays a vital role to help the customers to avail e-cash facility. In this process there is an issuer bank which is authorized to open an e-cash account. The second party is the merchant who sell the product & services for e-cash. The next party in this transaction is Government agencies which are authorized & registered for e-cash transactions. e-cheque helps the payer to pay a certain amount to the payee by only instructing its bank. e-Cheque contain the necessary information such as name, account number, type etc, required for safer transaction. The authentication of e-cheque is also secure with a digital cheque number which provide extra security to this facility.

Process of Transaction through e-Cheque

Amount Debited in Customer's Bank Account & Credited in the Account of Vendor's Bank

The process of e- cheque is showed in Figure II in which buyer is the customer who uses e-cheque facility to pay for purchase of goods & services. The buyer's bank is considered as another party which works in co-ordination with the third party called accounting server which provide e-cheque facility. After that the vendor's bank credited with the particular amount & customer's bank debited with the same.

e-Operations & Growth of Indian Banking Business

The Indian banking sector has significantly grown in size in the recent years, its soundness has also been maintained even during financial crises. The impact of financial market developments on banks is reflected by the trends in their growth & functioning. The banking business of Scheduled Commercial Banks (SCBs) recorded higher growth in 2010-11 as compared with their performance during the last few years. Credit grew at 22.9 per cent and deposits grew at 18.3 per cent in 2010-11 over the previous year. In the Indian set up with an enormous spread of banking institutions and other financial organisations, ensuring adequate customer service. The total turnover under the various payment and settlement systems both in value as well as volume terms, exhibited a steady growth of 10 per cent in 2010-11 during the introductory phase, electronic products like Electronic Clearing Service (ECS) and Electronic Funds Transfer (EFT) were introduced by the Reserve Bank. The focus during the rationalisation phase has been to introduce Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT) and National Electronic Clearing Service (NECS) that enable servicing customers spread throughout the country with settlement at a central location that played a vital role to enhance banking business in India.

The Table II that in present banking scenario banks are not only going ahead on the path of success by depositing & lending money but also providing other services according to growing need of their retail corporate & other institutional customers. Their gross NPAs to gross advances ratio declined to 2.25 per cent in 2010-11 from 2.39 per cent in 2009-10, with improvement in asset quality of the banking shows improvement in the penetration of banking services in 2010-11 than the previous year. Figure

III depicts the impact of financial market developments on banks reflected by the trends in their various soundness indicators, namely, Return on Asset (RoA), Capital to Risk Weighted Assets Ratio (CRAR) and Non-Performing Assets (NPAs).

The unprecedented growth of information technology has led to an intense competition in this sector. Aggregate deposits, credits, investments have increased. The rapid adoption of technology is the strong reason for providing services electronically all over the world but there are some untouched issues that must be taken in to consideration.

The main suggestions based on the study of e-operations and banking business are as follows:

- (i) To streamline the process of fund transfer systems like NEFT, RTGS, ECS (Credit) and NECS systems, banks can credit beneficiaries' accounts based solely on account number details subject to safeguards.
- (ii) Customers are the backbone of any kind of business activities, maintaining relationship with them yield better result. CRM is the business strategy which are used for anticipate, current and potential customers.
- (iii) Lack of awareness for the electronic banking in Indian people should be removed & efforts should be made to launch internationally accepted data standards by providing high degree of security.
- (iv) Commercial banks must enhanced the use of IT in areas like MIS, regulatory reporting, adoption of technology based strategies for financial inclusion, use of analytics for improved customer relationship management (CRM) should be set as priorities.
- (v) There is the requirement of Secure e-banking transaction because if Banking does not provide confidence to their customers that their communications and data are safe from unauthorized access they will not be technofriendly.
- (vi) Effective means should be adopted for authenticating and ensuring confidentiality of electronic transaction to protect data from unauthorized use. Users should understand how to protect their systems and data.
- (vii) e-Banking increases banks' dependence on information technology, so in turn there is

increasing the technical complexity of many operational and security issues. This development provide path to the creation of new avenues such as banks and non-bank entities, Internet service providers, telecommunication companies and other technology firms with technical updation.

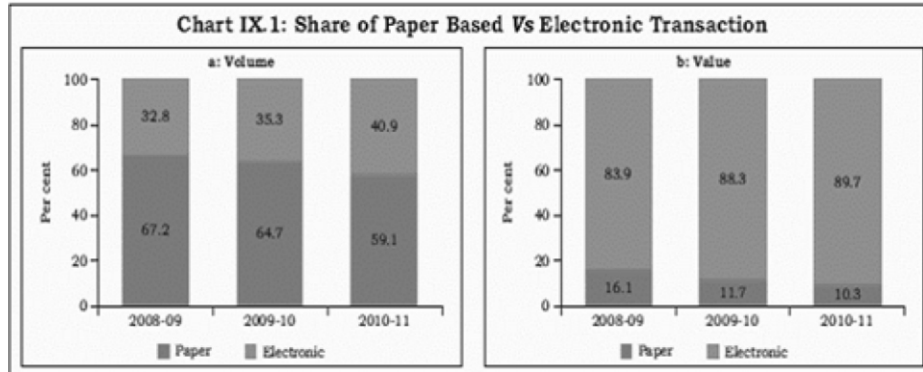
- (viii) e-Security requires a bundle of technologies (encryption, authentication, password controls, firewalls, etc.) and effective use of these technologies. Banks should ensure proper authorization controls and access are in place for e-banking systems, databases and applications.
- (ix) The online bank operations should be separated from the public Internet by a firewall. If the data is authenticated, then it acts as a filter which will provide the input information into bank online services from the Internet to protect from Internet-hacking attacks.
- (x) Communication between client and the bank server should always based on the Secure Socket Layer protocol (SSL). For maximum safety, the bank Operations must encrypts all communication using at least 128 bits.
- (xi) When user connect to a online banking application, all communication and online operations should be encrypted. The keys used must be known only to client's computer and to the bank system. For unauthorized user, an encrypted message is just a string of random characters. And the Secure Socket Layer protocol in the online banking system effectively stop to the possibility of manipulations.
- (xii) Non-availability of access to mobile service provider's network or Internet also creates problem for the users that has to be taken in to consideration. Always use the latest version of your browser. Up-to-date software will usually have improved security mechanisms.
- (xiii) CRM in banking sector is still in evolutionary stage, it is the time for taking ideas from customers to enhance this service. The use of CRM in banking has gained importance with the innovative strategies for customer acquisition and retention in this competitive era.

Conclusion

The study highlighted the growing presence of banks in recent years in intense competition which forced a change in banking practices to add & prompt their services for variety of clients. Although there are liquidity and operational risks in the Indian payments and settlement system infrastructure but various innovative ways have to be searched for bank profitability in a cost effective manner. This is especially evident in the case of emerging banking sector which are putting sincere efforts to introduce & implement the innovative technology and providing a guaranteed settlement in various market segments. With time, the scope of data released by the Reserve Bank has enlarged and the manner in which the data were released has changed from print to electronic version. The Bank is using various IT solutions to improve the dissemination of statistical data he study proves that present banking scenario is totally customer driven & technology oriented which has rapidly improved the efficiency, productivity & profitability of banks.

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Source: Annual report of Reserve Bank of India

Figure I : Share of Paper Based Vs. Electronic Transaction

Table I : e-Operations Annual Turnover

Item	Volume (in million)			Value (₹ crore)		
	2008-09	2009-10	2010-11	2008-09	2009-10	2010-11
1	2	3	4	5	6	7
Systemically Important Payment Systems (SIPS)						
1. High Value Clearing	21.8	5.5	0.0	45,50,667	18,61,560	0
2. RTGS	13.4	33.2	49.3	3,22,79,881	3,94,53,359	4,84,87,234
Total SIPS (1+2)	35.2	38.8	49.3	3,68,30,548	4,13,14,919	4,84,87,234
				(6.6)	(6.3)	(6.2)
Financial Markets Clearing						
3. CBLO	0.1	0.1	0.1	88,24,784	1,55,41,378	1,22,59,744
4. Government Securities Clearing	0.3	0.3	0.4	62,54,519	89,86,718	69,70,236
5. Forex Clearing	0.8	0.9	1.2	1,69,37,489	1,42,11,486	1,91,60,153
Total Financial Markets Clearing (3-5)	1.2	1.4	1.7	3,20,16,792	3,87,39,582	3,83,90,133
				(5.7)	(5.9)	(4.9)
Others						
6. MICR Clearing	1,142.0	1,144.2	1,155.1	58,57,575	66,69,957	83,01,218
7. Non-MICR Clearing	233.6	230.6	232.3	20,60,893	18,78,425	18,32,909
Retail Electronic Clearing						
8. ECS DR	160.1	149.3	156.7	66,976	69,524	73,646
9. ECS CR	88.4	98.1	117.3	97,487	1,17,613	1,81,686
10. EFT/NEFT	32.2	66.3	132.3	2,51,956	4,09,507	9,39,149
Total Retail Electronic Clearing	280.6	313.8	406.4	4,16,419	5,96,644	11,94,481
Cards						
11. Credit Cards	259.6	234.2	265.1	65,356	61,824	75,516
12. Debit Cards	127.7	170.2	237.1	18,547	26,418	35,705
Total Cards	387.2	404.4	502.2	83,903	88,242	1,14,207
Total Others (6 to 12)	2,043.4	2,092.9	2,296.0	84,18,790	92,33,268	1,14,35,745
				(1.5)	(1.4)	(1.5)
Grand Total (1 to 12)	2,079.8	2,133.0	2,346.9	7,72,66,130	8,92,87,769	9,83,13,112
				(13.9)	(13.6)	(12.5)

Source: Annual report of Reserve Bank of India

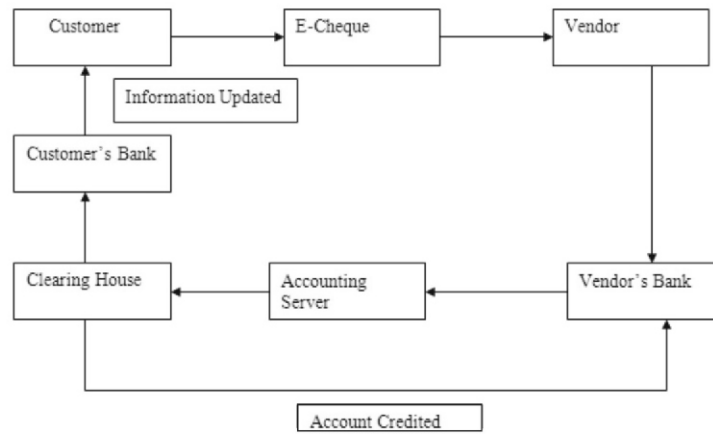


Figure II : Process of Transaction through e-Cheque

Table II : Size and Soundness of the Indian Banking Sector

Table 1: Size and Soundness of the Indian Banking Sector						
(in per cent)						
Year	Banking assets to GDP	RoA	Return on Investments	Return on Advances	Gross NPAs	CRAR
1	2	3	4	5	6	7
2004-05	72.4	1.01	7.9	8.1	5.2	12.8
2005-06	75.6	1.01	7.7	8.2	3.3	12.3
2006-07	80.6	1.05	7.2	8.9	2.5	12.3
2007-08	86.8	1.12	7.3	8.9	2.3	13.0
2008-09	93.8	1.13	7.0	9.9	2.3	13.2
2009-10	92.0	1.05	6.6	9.3	2.4	13.6
Average	83.5	1.10	7.3	9.2	3.0	12.8
Standard Deviation	8.7	0.05	0.46	0.95	1.14	0.51

Source: Reports on Trend and Progress of Banking in India, various issues.
Statistical Tables Relating to Banks in India, various issues.

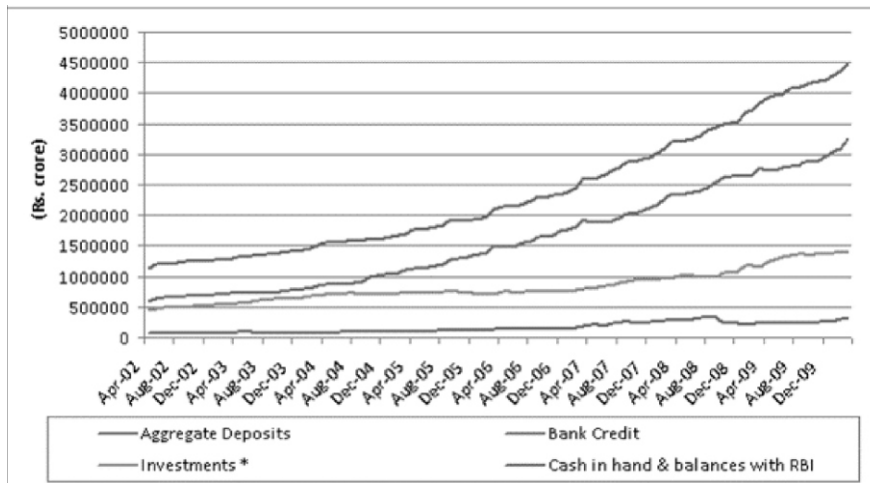


Figure III : Penetration of Banking Services