JIBC

Journal of Internet Banking and Commerce

An open access Internet journal (http://www.icommercecentral.com)

Journal of Internet Banking and Commerce, June 2017, vol. 22, no. S8

Special Issue: Mobile banking: A service provider perspective
Edited By: Mihail N. Dudin

TECHNOLOGICAL DEVELOPMENTS IN THE INDIAN BANKING INDUSTRY: THE DELAYED FLAW

ASHOK KUMAR*

Birla Institute of Technology, Mesra, Jharkhand, India, Tel: 0651-227-5444;

Email: **ashok.bits111@gmail.com**

ABHISHEK SINGH

Birla Institute of Technology, Mesra, Jharkhand, India

Abstract

Given that technological advancements in the banking sector in industrialized nations have been appeared to build efficiency of this industry around the globe, then why did India modest far from embracing this technology until the 1990s? Why has India been a late adopter of technology in the banking business when it could have received the rewards from the current R&D ability created by trend-setters and early adopters? This article diagrams the way of technological advancement in the Indian banking industry post-monetary progression (1991-1992) and recognizes beginning conditions as far as aggressive condition and administrative weights that have added to the dispersion of these developments. The article highlights the sector of worker's openly division banks and their underlying restriction to technological appropriation. The exact investigation exhibits the predominant execution of the early adopters of technology (private banks and public banks) as measured by profitability, returns on value, and piece of the pie, when contrasted with the late or uninvolved adopters (public sector banks).

Keywords: **Technology; Banking; Unions; India.**

INTRODUCTION

The progress in Information Technology(IT) in the previous 25 years have profoundly affected the way of banking and in the path in that banks and budgetary establishments are composed. An investigation of the technological advancement in the banking division is vital on the grounds that banks assume a vital sector in giving financing and preparing reserve funds, sectoricularly in developing markets when contrasted with develop markets, where such capacities are performed by the very much created capital markets. Technological proficiency can bring about lower exchange costs and expanded incomes for banks. For example, technology can permit banks to cross-showcase new and existing items to clients. Technology can likewise produce a high rate of development in new money related items. Assist, as Mishkin and Strahan [1] notes, data technology can make it less demanding for banks 'to screen out great from terrible credit chances or to screen companies, in this way lessening the unfavorable determination and good danger issues,' that would somehow or another hinder the productivity of money related markets. The wasteful aspects happening thus of antagonistic choice and good risk can antagonistically influence the banks' accounting report (through an expansion in non-performing advances) and make them more defenseless against outer stuns. Such vulnerabilities could convert into out and out banking emergencies in developing markets [2-4]. From a bookkeeping viewpoint, technology can accelerate the money related announcing process and the opportuneness with which banks make open revelations by means of administrative reports. Better quality open exposures can convert into a general change of monetary market straightforwardness. Such divulgences can likewise give valuable and precise information to bank directors which thus could upgrade the oversight of banks. At long last, the utilization of technology can enhance/upgrade frameworks for authoritative control, for example, empowering better administration of hazard, which if revealed in administrative reports to managers and in yearly reports to financial specialists, can enhance bank straightforwardness and empower the banks to diminish their cost of capital [5,6].

Consequently, technology can be the way to separation, aggressive edge, and institutional survival. The motivation behind this article is to concentrate the development and advancement of technology in the Indian banking industry, where we comprehensively comprehend technology to incorporate not just the procedure developments that are set up to apply technology inside the work environment, additionally the subsequent advancement in business system and monetary items. The article talks about the significance of open area bank unions in contradicting the utilization of technology and examines the implications of their resistance on key markers of Public Sector B0ank (PSB) efficiency. This article continues as takes after. The accompanying area compresses the historical backdrop of the Indian banking framework and highlights the "stateliest" standards under which the framework worked before the changes in 1991. The third area concentrates on the sector of PSB unions and examines their underlying restriction and possible compromise with the push to receive technology. Area four presents key profitability information by bank sort and shows the aggressive edge created by private banks that were early adopters of technology. The last segment finishes up.

Technology in Indian Banking: An Historical Review

The Indian banking segment works under the administrative and supervisory rules issued by the national bank, the Reserve Bank of India (RBI).1 Scheduled business banks in India can be comprehensively ordered into the accompanying three classifications: a), Public division banks or PSBs (State Bank of India and its sectorners and nationalized banks); b), Private segment banks (old and new); c), Foreign banks. It is obvious that PSBs have overwhelmed the banking business in India since autonomy. As of March 2000, of the 101 booked business banks, 27 were PSBs, 31 were private banks and 42 were remote banks. These banks had add up to resources worth Rs. 11,014 billion (around 234 billion US dollars) and a system of 55,855 branches. In the meantime, 80 for each penny of aggregate banks' benefits were controlled by the PSBs. These banks were likewise intensely unionized and the relationship between PSB unions and computerization has typically been tumultuous. This is talked about in some detail beneath. While there is a broad writing on the effect of technological development and uses of data and interchanges advancements on the banking area of some modern nations [7,8], the writing on technology in Indian banking is insufficient, best case scenario. In this way, it is beneficial to investigate the appropriation, application, and dissemination of technology from a noteworthy point of view.

From Privatization to Nationalization (The 1960s)

At the season of Independence in 1947, India was a standout amongst the most open economies. Be that as it may, at the time, the assumed achievement of the Soviet Model of financial improvement over the Capitalist Model drove the policymakers to take after a communist way with arranged advancement. This gave a tremendous sector to the legislature in each circle of monetary life, including the banking segment. Not long after autonomy, the administration received a sectoricular arrangement of utilizing the banking area to advance monetary development and social change. There was a developing worry among the approach producers that the rustic regions and other need sectors (like little scale industry, skilled workers, and so forth.) were not served by these private banks. The general intuition was that for better credit arranging the connected control of industry and banks in the same (private) hands must be disjoined by the nationalization of exclusive banks [9]. This strategy center provoked a move towards bank nationalization and subsequently the Imperial Bank of India was nationalized and renamed the State Bank of India (SBI).2 Later, under the Nationalization Act of 1969, the 14 biggest private sector banks were likewise nationalized.

In 1980, the administration of India nationalized six more private banks conveying the aggregate to 20. The SBI was made a request to advance the banking propensity by extending branches the country over, sectoricularly in provincial regions.

Table 1 demonstrates the spread of business banking since nationalization. The table (Sectors I and II) shows a huge development in the quantity of banks and bank offices in the economy over the period 1969 to 1996. Sector III of Table 1 gives quantitative confirmation on the development of Indian planned business banks over a similar period. In genuine terms, the Indian banking area seems to have added to the spread of the banking propensity in the economy, as judged by markers, for example, add up to stores assembled, credit dispensed, per capita stores and per capita credit accessibility. The expansion in the share of country branches, the diminishing in the populace served per office, and the rising extent of stores Rishi and Saxena, Technological advancements in Indian banking 341 to national pay more than 1969-1996 additionally recommends that Indian banks could assume a positive sector in organizing funds, and turning into a wellspring of credit to the little and rustic borrower. As indicated by Datt and Sundaram [10], the aggregate credit stretched out by PSBs to horticulture, little scale businesses, and other need sectors expanded from 12 for each penny in 1960 to 25 for every penny in 1970 and 43 for each penny in 2002. The development of branch banking in the late 1950s and the subsequent development in the sheer volume of exchanges required the primary moves toward motorization in the Indian banking segment. It was right now that the SBI acquainted section punched card gear with help with the compromise of the expansive volume of between bank exchanges in its Calcutta office. In any case, the quick development in branch banking soon rendered this technology outdated and in the mid-1960s the SBI purchased its first to national wage more than 1969-1996 likewise proposes that Indian banks could assume a positive sector in organizing investment funds, and turning into a wellspring of credit to the little and rustic borrower.

Table 1: The spread of scheduled commercial banking, 1969-2009.

Sr. No.		**June 1970**	**June 1985**	**March 1991**	**March 1996**	**March 2009**
1.	Number of Reporting banks	71	267	272	287	
	a. SBI and Associates (SBI&A)	8	8	8	8	8
	b. Nationalised banks (NBs)	14	20	20	19	20
	c. Domestic Private sector	36	31	25	34	43
	Bank of which – New private banks(NPV)	0	0	0	9	27
	d. Foreign Banks	13	20	23	30	29
	e. Regional Rural Banks	0	188	196	196	

2.	Total Branches in India	8,832	53,165	60,646	63,168	102343
	a. SBI&A	2,602	10,742	12,461	12,968	16062
	b. NBs	4,617	25,145	29,812	31,177	39376
	c. PVs					8877
	- NPVs	0	0	0	76	
	d. FBs	130	136	139	156	331
	e. RRBs	0	12,602	14,531	14,517	17007
3.	Quantitave Expension					
	I. Share of rural branch in total branches	22.2	58.74	58.46	52.4	63.4
	II. Population per office	64	15	14	15	12.3
	(‘000)	137.8	614.6	1101.2	1448.9	59090.82
	III. Total deposits (Rs bn)	106.8	406.0	667.0	848.4	4618.52
	IV. Total credit (Rs bn)	16.6	12.0	18.3	23	600.99
	V. Deposits per office (Rs	13.0	7.9	11.0	13.5	469.0
	bn)	261.1	818.2	1296.1	1551.1	48732
	VI. Credit per office (Rs bn)	201.7	540.7	784.9	908.1	38033
	VII. Per capita deposits (Rs)	15.5	39.4	49.4	50.6	62.44
	VIII. Per capita credit (Rs)					
	IX. Deposits as % of national income					

Notes: (iii)-(viii) are in real terms. Real estimates are obtained by deflating nominal estimates by Wholesale Price Index (1981-2 ¼ 100).

As indicated by Datt and Sundaram [10], the aggregate credit stretched out by PSBs to horticulture, little scale enterprises, and other need areas expanded from 12 for each penny in 1960 to 25 for every penny in 1970 and 43 for each penny in 2002. The extension of branch banking in the late 1950s and the subsequent development in the sheer volume of exchanges required the main moves toward automation in the Indian banking segment. It was as of now that the SBI acquainted section punched card hardware with help with the compromise of the huge volume of between bank exchanges in its Calcutta office. Be that as it may, the quick development in branch banking soon rendered this technology outdated and in the mid-1960s the SBI purchased its first computer (an IBM 1401 bolstered by 80 section punched card machines) to aid the compromise of records between branches. The case of the SBI was soon trailed by most other huge nationalized banks. Strikingly enough, the Indian banking area was not genuinely drawn toward automation of operations, especially as to client related exercises. Rather, the banks concentrated on business era and upheld development in exchange volume by including more representatives rather than technology. After nationalization in 1969, banks started to concentrate on creating agreed enlistment arrangements and fitness tests that would pull in quality representatives to the sector, regardless of standing, group, religion, or sexual orientation. Mass business era was a vital piece of the social objectives for banks as imagined by the legislature. In such a situation, banks expected that computerization would bring about extensive scale conservation what's more, unemployment.

The Early Adoption Phase (Late 1970s-1980s)

As the previous investigation shows, the nationalization of exclusive banks achieved the social targets imagined by the Government of India. Be that as it may, the accomplishment with asset preparation was not coordinated by changes in productivity and proficiency. The PSBs were over-burden by the sheer volume of banking business that was taken care of by awkward manual information section operations. Banks were described by low benefit, rising non-performing resources, and low quality client benefit. These worries prompted to the following period of nationalization in 1980, which thought considerably all the more banking business in the hands of the PSBs (6 more banks were nationalized). Toward the finish of the 1980s, the Indian banking segment was totally ruled by PSBs.

The 1969 nationalization had raised the share of stores of PSBs to 86 for every penny and by 1980 this had ascended to 92 for each penny. The final product was unrewarding and congested banks, which provoked the Committee on the Mechanization of the Banking Industry to push for the reception of PCs to streamline the banking business. The main rush of technology reception was actually a move to mechanize operations by PSBs to build effectiveness in retail banking operations.3 Banks quickly introduced Automatic Ledger Posting Machines (ALPMs) and smaller than usual PCs, and started a forceful program of preparing developers and information section terminal administrators. The Rangarajan Committee [11] gave encourage catalyst to technology reception by suggesting full computerization of both front and back office operations of substantial branches. Along these lines, the push of technology in its initial stages was on branch robotization, i.e., add up to computerization of keep money with its own sectoricular information base.

The Big Push (the 1990s)

The money related segment changes of the 1990s, as sketched out by the Narasimham Committee [12], changed the Indian banking industry and opened it to rivalry from inside and outside. Given the heaviness of PSBs in the banking sector, it is advantageous Rishi and Saxena: Technological developments in Indian banking 343 analyzing the PSB union reaction to rivalry and the push toward automation as a cost sparing strategy. The exchange union development in Indian banks started in 1946 with the arrangement of an All India Bank Employees Association (AIBEA). Toward the begin of the new Millennium, there were nine exchange unions for officers and laborers in the banking business.

The Indian Banks' Association (IBA), which was likewise shaped in 1946, is an administration association which, from its commencement, has been in charge of arranging pay and compensation contracts with unions and relationship of bank representatives, for the benefit of bank administration. In 1999, the AIBEA represented 50 for every penny of sorted out laborers in the business and the All India Bank Officers' Confederation (AIBOC) constituted 70 for every penny of composed bank officers [9]. In the post-freedom period, PSB unions started to assume an undeniably imperative sector in bank basic leadership and voiced solid restriction to the appropriation of technology in bank offices. Be that as it may, the photo quickly changed in the 1990s as the advancement of the banking division got rivalry as new private banks (9 in 1994) and new outside banks (21 in the vicinity of 1994 and 1999).

Bank unions were put under gigantic weight to allow the appropriation of technology inside banks. In October 1993, the bank unions consented to a Computerization Settlement Arrangement with the IBA that made ready for the presentation of current technology inside PSBs. Under the rules of this understanding, 2,500 to 3,000 branches would be mechanized in urban and metropolitan ranges. Little as this progression may sound, as the last spoke to under 2 for every penny of the aggregate number of retail bank offices, it in any case was a critical point of reference in separating union imperviousness to expedient reception of technology.

In March 1997, bank unions marked another settlement with the IBA that took into consideration an augmentation of new technology in operations and gear. In spite of the fact that the administration did not undermine to lay off specialists, they negotiated a stop on further enlisting. So as to contend with the private banks as far as client administration, even a bogus allegation of inconsiderate conduct by a bank worker was considered important by the administration. Such strict standards constrained many bank workers, who were nearing retirement age, to settle on the Voluntary Retirement Scheme, which saved the after-retirement advantages, for example, benefits and additionally provident assets, and in the meantime gave gigantic financial returns. This plan likewise helped PSB banks manage the issue of conservation notwithstanding computerization. It is intriguing to note that, notwithstanding chiding unions for their imperviousness to technology appropriation, the Narasimhan Committee [12] likewise archived that bank supervisors at first opposed the execution of technology as a result of the absence of adaptability in rebuilding work even with robotization [9]. Gothoskar [13] composes that bank administrators were not genuine about computerization, as years of assurance had dulled their point of view. Chiefs were anxious about the ramifications of computerization as far as the chain of importance and their own sectoricular positions.

This key push towards technology selection was additionally felt by the new contestants as they understood that their focused edge and maintainability as time goes on was subject to the arrangement of ease administration mediums, for example, Automatic Teller Machines (ATMs). Note that the push to utilize technology brought about various reactions: while the PSBs utilized data sharing and technology to encourage inward operations, the new era private area banks depended vigorously on technology to build their market achieve, given the detriment they confronted in the broadness of their scope the nation over contrasted with the PSBs. Maybe unmistakable demeanors to the appropriation of PC technology help to clarify the distinctions in profitability outlined in the experimental area of this article underneath.

There was additionally an administrative push to embrace technology in the wake of the 1992 securities outrage which brought about institutional changes with respect to electronic trading.4 Consequently, the National Stock Exchange (and later the Bombay Stock Exchange) was compelled to present technology, for example, straight through handling, keeping in mind the end goal to better screen and direct exchanging on the stock trade. Before the finish of the 1990s, PSBs were anxious to present computerization and of the more than 45,000 branches having a place with PSBs in September 1998, around 25 for every penny were incompletely or completely electronic. By 2001, this number had expanded to 50 for every penny (Table 2).

Seeing that the operational side of the PSB business was concerned, ALPMs, electronic bookkeeping machines and (PCs) were introduced at a record pace. In entirety, the "push" period of technology selection in Indian PSBs was equipped, specifically, towards the decentralization of banking systems, with each branch working/keeping up its own gathering of servers and applications.

The issue with this procedure was that branch banking advancement required high support that brought about low development and profitability as prove in the experimental area. It was apparent that cost diminishment handle advancements, for example, multi-conveyance station banking (ATMs, Net-banking, portable banking, Electronic Funds Transfer at Point of Sale terminals (EFTPOS), charge cards, phone banking) must be accomplished by means of brought together systems. This advancement in banking additionally harmonized with the PSBs move to high volume retail banking operations to keep their money related edges sound.

Table 2: Progress of cputerisation in publc sector banks, 1998-2013.

Particulars	**1998**	**2001**	**2013**
Total no. of branches	45,439	46,426	46,528
Sectorial computerisation at branch level	6,961	13,218	16,526
No. of fully computerised branches	3,668	9,777	13,078
No. existing service branches	336	376	385
No. of sectorial computerised service branches	166	134	63
No. of fully computerised service branches	149	252	38
Total ATM installed	194	895	2,490
Total terminals at corporate site installed	8,50,000	8,75,788	5,980
Total debit card issued	32,000	2,19,058	3,06,62,628
Source: Reserve Bank of India website (www.rbi.org.in).			

The Current Picture

Since the RBI report of 2001 [14,15], there has been a coordinated push to enhance the installment and settlement frameworks. Developments in these ranges have included Electronic Funds Transfer (EFT), Real Time Gross Settlement System (RTGS), Centralized Funds Management System (CFMS), and the Structured Financial Messaging Solution (SFMS). The RBI has upheld that new installment and settlement framework applications be streamlined over the INFINET (Indian Financial Network), a client bunch correspondence organize for the Indian banking segment that was at first limited to PSBs alone. Since 2001, enrollment of the INFINET has been opened to different banks and money related establishments. Regarding changes in checking of clearing frameworks, the RBI is stressing the use of Electronic Clearing Services (ECS) to support non-paper based development of assets.

The twenty-first century has likewise created criticalness among banks to receive center banking arrangements. Center banking depends on the guideline of cost sparing by concentrating operations at the bank level. Simply, center banking suggests a move from branch banking to bank banking (outside change), i.e., clients are bank-sectoricular and not branch sectoricular. Once a center is built up, banks can offer multi-channel administrations to their clients. Since multi-channel conveyance of banking administrations is getting to be distinctly vital, banks require arrangements that would streamline these other conveyance frameworks and guarantee a consistent and ongoing collaboration between a client and the retail bank. This is being refined by means of channel combination advancements. Channel reconciliation is demonstrative of a move from strategic channel augmentations to vital utilization of channels and client data to upgrade client esteem. Basically, this involves the improvement of a solitary perspective of the client that can be conveyed reliably to all client touch focuses, and the conveyance of banking items and administrations reliably over all channels. Such advances ought to permit banks to reshape their client base and create a positive degree of profitability and empower banks to reevaluate themselves as showcasing offices, by offering items like RBI bonds, Mastercards, disaster protection, and so on.

Center banking applications or conveyance channel joining applications can likewise help banks in dealing with their hazard (Loyalty administration technology). Enter advancements in this field envelop Any Branch Banking (ABB) which empowers clients to work their records from any branch of a bank. Such advancements are made conceivable by concentrating bank databases and utilizing robotization over numerous conveyance channels. For example, State Bank of India (SBI) had arranged 1,400 branches in 50 Indian urban areas in 2013 alone. It had likewise mechanized 400 new branches and wanted to utilize center banking arrangements in 1,000-1,500 branches in 2004-2005 [16]. Fruitful usage of center banking arrangements guarantees extraordinary reserve funds as far as lessened exchange expenses and time, notwithstanding abbreviated time periods for branch monetary record compromise.

The genuine execution of center banking standards differs extraordinarily from bank to bank. Some PSBs (SBI and Bank of Baroda) favor changing their business procedure operations before actualizing technology, while others, for example, Andhra Bank dodged center banking out and out. However another PSB, Bank of India, has arranged around outsourcing its whole center banking operations. Executing center banking 346 Accounting, Business and Financial History arrangements involved developing organizations together with IT specialists, for example, KPMG, IBM, HP, and Accenture, among others. A fascinating improvement in such manner includes an accentuation on outsourcing the whole technology divisions to the private sector, a pattern that was relied upon to pick up force over the principal decade of the 2000s as PSBs searched for approaches to diminish costs and contend adequately with the new private and remote banks. Bank unions, as well, appear to have made considerable progress in tolerating the possibility of technology as the main powerful apparatus in battling rivalry from private banks. On their sector, PSBs are utilizing imaginative movement methodologies and deliberate retirement plans to manage workforce repetition issues in the wake of this technology sending. Now, from the viewpoint of system, PSBs are endeavoring to go up against their nearest equals by the sheer volume of organized branches, which will give singular clients a more prominent number of get to focuses to bank markets, instead of a solitary section point through a retail bank office. Indian private banks appear to have an edge over PSBs in non-branch banking. In private banks, just about 70 for every penny of bank business is dealt with by means of non-branch stations, for example, the web, the phone, and ATMs. The biggest private bank in India, the Industrial Credit and Investment Corporation of India (ICICI), has more than 1,700 ATMs while SBI and different PSBs are slacking far behind.5 However, the PSBs are forcefully looking to contend in non-branch banking, as archived by the foundation of ATM sharing organizations together amongst PSBs and private segment banks, which will empower SBI clients to have entry to ICICI's ATMs [17].

Productivity and Performance in Indian Banking

The past areas have highlighted that the passage of new outside and private banks brought about an outlook change in the banking segment in India. Remote and private banks, with their best in class technology-based administrations, could win positive efficiency favorable circumstances over the SBI gather and the nationalized banks. The distinction between the early adopters and the late adopters of technology can be unmistakably gathered. It ought to be noted here that the opposition amongst PSBs and remote banks has been restricted in the principle to retail money related markets as purchaser advances were viewed as being more beneficial than corporate credit. Business per worker is a key measure of work profitability and unmistakably shows that the middle business per representative was substantially higher for remote banks and new private banks that were early adopters of technology when contrasted with the SBI bunch and the nationalized banks that were late adopters of technology.

The distinction in medians crosswise over bank sorts is additionally huge at the 5 for every penny level as prove by the balanced middle x2 measurement. Additionally, the middle benefit per worker was most elevated for the new private banks and least for the nationalized banking sector and the distinction in middle benefit per representative was noteworthy at the 5 for every penny level. For key profitability proportions, it has been uncovers that while the middle resource turnover proportion and the middle productivity proportion was genuinely unfaltering for all bank sorts more than 1997-2001, the middle esteem included proportion was more than six circumstances higher for outside banks and for new private division banks when contrasted with nationalized banks. The middle distinction was huge at 5 for each penny level for all proportions as judged by the median x^2 measurement (aside from the turnover proportion in 2001 and the productivity proportion in 1999). In whole, there is clear and persuading confirmation to bolster the profitability edge created by early adopters of technology when contrasted with the PSBs that were moderate in receiving technology. Notwithstanding these insights on efficiency, as measured by the wage to working cost proportion, in the PSBs when contrasted with remote and private segment banks.

CONCLUSION

Look into on banking can give valuable data about the dispersion of innovative advance as banks use technology seriously. IT use in Indian banking has made some amazing progress since the days when banks were seen just as instruments of social change. In any case, notwithstanding its significance, there are no huge reviews that have nearly inspected technological change in the Indian banking sector. This article has endeavored to address this restriction by giving some applicable data on technological appropriation in India. The article has highlighted the underlying resistance of unions to technology and has demonstrated how aggressive weights post-progression made the bank unions reevaluate their position on technology. As highlighted in the article, in the mid twenty-first century, the Indian banking framework is amidst an innovative transformation. Open and private banks have both understood that technology alone could empower them to trim expenses, accomplish productivity and get by in an exceptionally aggressive condition. Accordingly, PSBs have propelled willful retirement plots with an end goal to cut down their wage costs. The attention on retail banking and other charge based administrations, for example, certifications and commissions on drafts, subordinates, and gold banking, and so forth, is relied upon to enhance gainfulness, Wage to Operating Expense Ratio for Banks in India, 1990-2013.

However, PSBs have still to make a considerable measure of progress as for usage of technology in all their branches. So as to adequately rival private Indian and outside banks, PSBs need to guarantee that they are all 'financially situated'. Indeed, even the Narasimham Committee [12] proposed that the idea of need segment ought to be reclassified to incorporate just the weakest area of the provincial group, for example, minimal ranchers, rustic artisans, town and bungalow ventures, and so on. The guided loaning ought to be constrained to 10 for each penny of the total bank credit, rather than the current 43 for every penny.

The social reason for bank credit ought to be to improve little industry. Consequently, social banking ought not to conflict with sound banking [10]. When Indian PSBs turn out to be all the more economically feasible, they will have the capacity to successfully utilize technology to contend with private banks. Be that as it may, the RBI should play a dynamic sector and utilize a double arrangement of support (carrot) and punishment (stick) to coordinate the PSBs far from the risks of unbridled broadening of the business portfolio and poor interior control toward improved productivity. In the meantime the RBI must evacuate any limitations that may emerge in applying the products of the new technology. The Narasimham Committee [12] has faulted the Government of India and the Ministry of Finance for the situation of the PSBs in the mid-2000s, as they have manhandled the coordinated loaning programs. The Committee legitimately recommended that the PSBs needed to receive technology to end up distinctly more aggressive and to improve their inner workings. Besides, the RBI ought to inspect every one of the rules and bearings to encourage the freedom and self-rule of the PSBs. Starting at 2004, the booked business banks have been given the opportunity to open new branches and redesign augmentation counters, in the wake of meeting capital sufficiency standards and prudential bookkeeping principles. In any case, they are presently allowed to close non-feasible branches, with the exception of in provincial regions.

Indian PSBs have some interesting favorable circumstances over their opposition. In any case, it is their utilization of technology that will empower PSBs to expand on their numerous qualities. Being delayed prodigies in the technology appropriation field, PSBs are not saddled with legacy frameworks, recommending that provoke usage of technology can put these banks at the bleeding edge of technological change. PSBs additionally have an immense system of branches inside rustic and semi-urban India and can adequately utilize technology to take advantage of under-served markets with huge social returns. At last, it is advantageous to note that the late Rajiv Gandhi's consolation to IT in the late 1980s was extremely dubious in light of the fact that PCs were viewed as a substitute for labor and saw as a symbol for 'occupation misfortune'. 10 years and a half later, India has expected the "lead" in creating programming on the planet. When India is synonymous with the "IT" transformation of the mid twenty-first century, it is difficult to perceive how banks can oppose receiving technology in their everyday operations for long!

REFERENCES

1. Mishkin F, Strahan P (1999) What will technology do to financial structure? Brookings-Wharton Papers on Financial Services, pp: 249-277.
2. Goldfajn I, Valdes R (1997) Capital flows and the twin crises: the role of liquidity. IMF Working Paper.
3. Chang R, Velasco A (1998) Financial crises in emerging markets: a canonical model. Federal Reserve Bank of Atlanta, pp: 98-110.
4. Kaminsky G, Reinhart C (1999) The twin crises: the causes of banking and balance of payments problems. American Economic Review 89: 473-500.
5. Basle Committee (1998) Report on enhancing bank transparency.
6. Healy PM, Palepu KG (2001) Information asymmetry, corporate disclosure, and the capital markets: a review of the empirical disclosure literature. Journal of Accounting and Economics 31: 405-440.
7. Garbade KD, Silber WL (1978) Technology, communications and the performance of financial markets: 1840-1975. Journal of Finance 33: 819-832.
8. Ba´tiz-Lazo B, Wood D (1999) Management of core capabilities in Mexican and European banks. International Service Industry Management Journal 10: 430-448.
9. Sarkar J (1999) India’s banking sector: current status, emerging challenges, and policy imperatives in a globalized environment. In: Hanson J, Kathuria S (eds.) India: a

financial sector for the twenty-first century. Oxford University Press, New Delhi, pp: 71-131.
10. Datt R, Sundaram KPM (2004) Indian Economy. S Chand and Company Ltd., New Delhi.
11. Rangarajan Committee (1989) Report on the Modernisation of the Banking Sector.
12. Narasimham Committee (1991) Report on Banking Sector Reforms.
13. Gothoskar S (1995) Computerization and women's employment in India's banking sector.
14. Reserve Bank of India (2001) Report on Banking. RBI, Mumbai.
15. Reserve Bank of India (2001) Annual Accounts Data of Scheduled Commercial Banks, RBI, Mumbai.
16. Business Standard (2003) Business Standard Banking Annual.
17. Reserve Bank of India (2004) Computerisation in banking industry-statistics.