



An Investigative Study of Banking Cyber Frauds with Special Reference to Private and Public Sector Banks

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Abstract

Use of technology in financial services of course has given a tremendous impetus to their development. However, due to heavy dependency on electronic and digital tools to carry out business and payment transactions, a serious threat has also been imposed to the safety and reliability of financial operations. Along with the growing trend of online and cyber transactions, the number of banking scams has also been on the rise affecting more and more people using banking technology tools. Frauds with online payments, ATM machines, electronic cards and net banking transactions have become a serious issue. Huge loss of money of people and institutions is caused every year due to these cyber frauds in banking firms, even after tight security measures in electronic transaction. Banks themselves have been found to be involved in fraudulent practices in a big way causing their customers enormous losses. This study is an effort to review and analyze the subject in Indian context with a comparative touch between private and public sector banks in the country.

Keywords: Cyber fraud, banking, transaction, sector.

Introduction

As the Information and Computer Technology has made its reach into almost every sphere of life. The world has been witnessing a growing trend of using online transactions, digital data transfer, electronic database and so many business, social and other activities based on computers, internet and information technology tools. In the time of cut-throat competition, every business entity wants to improve its performance level so as to cut costs, increase productivity and serve the customers better. Banking, insurance and financial organizations are the prime users of internet and online transactions. They make use of such technology to transfer cash, make payments, submit account information and other kinds of remittance services. Of course, the banking services have really got enriched owing to information and internet uses. But, at the same time, cyber threat is a big issue. Online transactions and data are not free from being attacked or manipulated. Cases of fraudulent cash withdrawals, account information hacking, data theft and credit/debit card scams have remarkable association with electronic systems in banking business. Today, maximum information being online, are highly susceptible to be attacked by cyber criminals. Cyber fraud cases in banks have become quite common which cause heavy loss of money to the customers every year. Cyber crime can be described as any criminal activity done using computers and the Internet. This includes anything from illegally downloading files to stealing millions of rupees from online bank accounts. Cybercrime also includes non-monetary offenses, such as creating and distributing viruses on other computers or posting confidential business information on the Internet. Perhaps the most

prominent form of cybercrime is identity theft, in which criminals use the Internet to steal personal information from other users. Two of the most common ways this is done is through phishing and pharming which are related with the finding of confidential online information.

According to the Zee Research Group (ZRG)¹ analysis, during the last decade, the Indian banking sector grew at an average rate of 18 percent in comparison to 7 percent GDP growth rate. However, during the same period, cyber fraud in the banking sector has emerged as a big problem and a cause of worry for this sector.

Explaining the rationale behind the increase in amount related to cyber frauds, Pavan Duggal, Cyber law expert averred, "Relevant security mechanism has not been followed by the private sector banks while public sector banks continued to follow the traditional approach." He lamented that the Gopalakrishna Working Group (GGWG) report recommendations on safe electronic banking had met with poor compliance. These recommendations mandated that each bank create a separate information security function to focus exclusively on information security management, a Board approved information security policy needs to be in place and reviewed at least annually as also digital evidence needed to be considered as similar to any other form of legal proof. This manuscript puts forward the issues related to the title.

Objectives of the Study: The current study aims at: i. Introducing the concept of cyber crimes in banks, ii. Presenting relevant data in understandable formats, iii. Making meaningful

analysis of the data belonging to banking cyber frauds of different banking sectors.

Research Method

Secondary data has been taken published by Reserve Bank of India and has been redesigned to suit the research study. Tables and graphs have been used for comparative analysis. The study is a review kind of work based on the chronological information related to the title. Though, the titled work puts a comparative analysis between private and public sector banks, foreign banks have been put in a different category in order to know their share in fraud cases, even though they belong to private sector only.

Literature Review: Some specific literature has been reviewed in order to find out the work done by research professionals, scholars and organization. Beirstaker, Brody, Pacini² suggested various techniques such as fraud vulnerability reviews, fraud policies, telephone hotlines, employee reference checks, vendor contract reviews and sanctions, analytical reviews (financial ratio analysis etc.), password protection, firewalls protection, digital analysis and other forms of software tools to detect and control frauds. Gupta P.K.³ in the study ‘Internet Banking in India – Consumer Concerns and Bank Strategies’ tried to identify the weaknesses of conventional banking and explores the consumer awareness, use patterns, satisfaction and preferences for Internet banking vis-à-vis conventional form of banking and also highlighted the factors that may affect the bank’s strategy to adopt Internet banking. It also addressed the regulatory and supervisory concerns of Internet banking. Ashu Khanna, Bindu Arora⁴ in their survey based work ‘A study to investigate the reasons for bank frauds and the implementation of preventive security controls in Indian banking industry’ done to find out the attitude of and measures taken by bank employees/ managers in controlling banking cyber crimes observed The bank employees do not give due importance to the problem of frauds. The awareness level of bank employees regarding bank frauds is not very satisfactory, and majority of them do not dispose favorable attitude towards RBI procedures as they find difficulty in following them due to workload and pressure of competition. Hemraj Saini, Yerra Shankar Rao and T.C. Panda⁵ in their study ‘Cyber-Crimes and their Impacts: A Review’ have described the problem and kinds of cyber crimes with their effects on different segments the society in general. B. Singh⁶ in their report ‘Online Banking Frauds In India’ has observed that Cyber crimes in India are on rise thanks to the growing use of information technology. With limited numbers of cyber law firms in India, these cyber crimes are not reported properly. Even the cyber security of India is still catching up with the present requirements.

Results and Discussion

Reserve Bank of India (RBI) is the regulatory body over banking in India. It keeps close eye on the banking operations.

However, electronic and online data processing leaves plenty space for manipulations. The Reserve Bank of India (RBI) has recently published the detail of cyber frauds (frauds relating to ATMs/Debit Cards/ Internet Banking and Credit Cards) in Scheduled Commercial Banks. Table-1 shows this detail as under:

Table-1
Cyber Crimes in Scheduled Commercial Banks in last 4 years⁷

Sl. No.	Calendar Year	Total cases reported	Amount involved
1	2009	21966	7233.31
2	2010	15018	4048.94
3	2011	9588	3672.19
4	2012	8322	5266.95

(In Rs. lakhs)

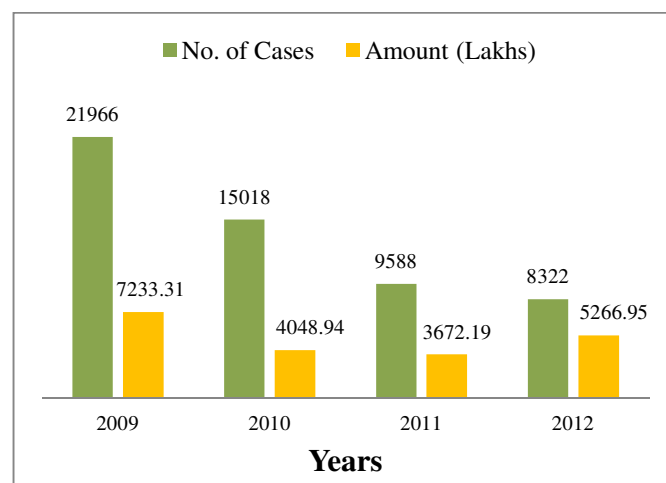


Figure-1
Cyber Crimes in Scheduled Commercial Banks in last 4 years

The table 1 and figure 1 show reducing number of reported cases. The amount involved is also reducing, but the year 2012 shows an increase. The number of cases fell by 31.6%, 36.2% and 13.2% in the year 2010, 2011 and 2012 respectively. The amount involved also came down by 44.0%, 9.3% in 2010 and 2011 respectively, but in 2012 it rose by 43%

Comparative Analysis: The data have been analysed to reveal comparative status of fraud cases in terms of numbers and amount involved. The study focuses two kinds of comparisons. i. intra sector (banks within same sector) comparison and; ii. inter banking (between sectors) comparison.

Inter Banking Sector Comparative Analysis: Banks belonging to the same sector, i.e. public, private, and foreign sector have been presented in different tables along with their data in terms of number of cyber crime cases and their monetary values.

Table-2
Detail of Calendar Year wise Cyber Frauds in Public Sector Banks⁷

S. No.	Bank Name	2009		2010		2011		2012	
		No. of Cases	Amount involved	No. of Cases	Amount involved	No. of Cases	Amount involved	No. of Cases	Amount involved
1	Allahabad Bank	0	0	0	0	1	3.3	0	0
2	Andhra Bank	0	0	1	31.85	1	0.52	0	0
3	Bank of Baroda	6	6.88	5	12.4	5	31.82	3	62.45
4	Bank of India	5	5.21	2	14.61	2	54.49	7	15.82
5	Bank of Maharashtra	4	3.55	4	4.69	2	2.9	3	105.26
6	Bank of Rajasthan Ltd.	0	0	1	0.31	0	0	0	0
7	Canara Bank	6	1.39	0	0	1	0.6	1	10.24
8	Central Bank of India	2	0.84	2	2.15	0	0	0	0
9	Corporation Bank	2	0.72	2	6.21	5	6.44	47	21.69
10	Dena Bank	0	0	1	2.07	1	0.53	0	0
11	FIRSTRAND BANK	0	0	0	0	0	0	14	4.82
12	IDBI Bank Limited	24	16.29	13	15.29	50	44.64	87	203.04
13	Indian Bank	0	0	1	1.41	1	0.41	4	20.9
14	Indian Overseas Bank	2	0.39	3	1.44	10	176.03	0	0
15	Oriental Bank of Comm.	0	0	1	4.75	0	0	0	0
16	Punjab National Bank	33	50.15	108	248.64	28	170.19	14	99.43
17	SBBJ	2	6.66	2	0.15	2	3.49	1	49.32
18	State Bank of Hyderabad	0	0	0	0	4	63.33	6	50.52
19	State Bank of India	0	0	0	0	2	14.62	0	0
20	State Bank of Indore	1	0.8	0	0	0	0	0	0
21	State Bank of Mysore	0	0	1	1.01	0	0	0	0
22	State Bank of Patiala	0	0	0	0	4	80.45	2	31.42
23	State Bank of Travancore	0	0	0	0	6	10.3	3	3.2
24	Syndicate Bank	2	0.53	1	2.32	1	0.56	2	7.87
25	UCO Bank	2	0.58	1	1.6	0	0	4	31.22
26	Union Bank of India	5	10.45	7	19.22	2	7.86	9	70.17
27	United Bank of India	1	1.37	0	0	0	0	6	32.86
28	Vijaya Bank	0	0	0	0	0	0	1	8.4
	Grand Total	97	105.81	156	370.12	128	672.48	214	828.63

(Amount in lakh)

It can be observed from table-2 that the numbers of fraud cases in public sector banks were small but they rose during the four years period with a small drop in 2011. The amount involved had no relationship with this fall and had a rising tendency. In year 2009, PNB recorded the highest number and amount of cyber crime cases followed by IDBI bank. In 2010, PNB showed highest number of cases followed by IDBI, but amount wise, PNB was followed by Andhra Bank, Union Bank of India and IDBI respectively. IDBI crossed PNB in 2011 in terms of cases, but amount wise, Indian Overseas, PNB and Bank of Patiala witnessed a substantial rise. In 2012, IDBI came on top followed by Corporation Bank and PNB. In terms of money involved, IDBI, Bank of Maharashtra and PNB recorded highest positions respectively. Figure-2 also describes the story.

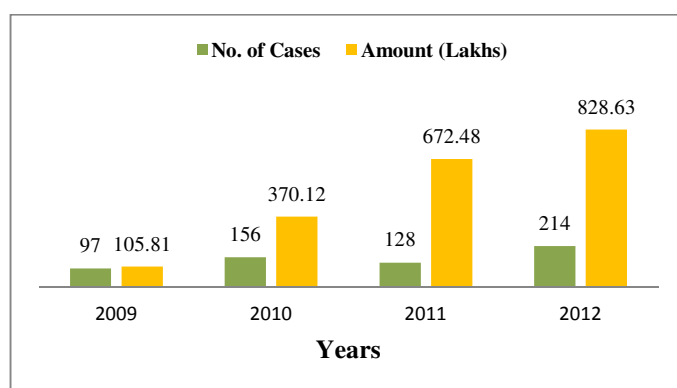


Figure-2
Detail of Calendar Year wise Cyber Frauds in Public Sector Banks

Table-3
Details of Calendar Year wise Cyber Frauds in Private Sector Banks⁷

S. No	Bank Name	2009		2010		2011		2012	
		No. of Cases	Amount involved	No. of Cases	Amount involved	No. of Cases	Amount involved	No. of Cases	Amount involved
1	Axis Bank Ltd.	20	110.58	14	44.59	23	209.59	85	1225.41
2	Development Credit Bank	2	0.96	2	0.3	0	0	0	0
3	Dhanlaxmi Bank Limited	0	0	3	2.29	1	3.02	4	1.09
4	Federal Bank Ltd.	0	0	2	20.5	0	0	3	83.69
5	HDFC Bank Ltd.	211	165.58	208	125.98	386	276.68	525	409.56
6	ICICI Bank Ltd.	15666	3731.95	9811	1920.28	6013	1096.67	3428	676.51
7	IndusInd Bank Ltd.	0	0	3	7.59	3	1.19	2	4.61
8	Jammu & Kashmir Bank	1	4.51	2	6.58	0	0	1	13.88
9	Karur Vysya Bank Ltd.	0	0	1	23.14	0	0	0	0
10	Kotak Mahindra Bank Ltd.	57	75.26	31	29.63	52	33.11	78	67.64
11	Lakshmi Vilas Bank Ltd.	0	0	0	0	0	0	1	10
12	South Indian Bank Ltd.	1	2.47	1	0.54	2	0.84	2	0.49
13	Tamilnad Mercantile Bank	0	0	0	0	1	0.27	1	1.49
14	The Royal Bank of Scott.	142	141.3	51	44.52	46	49.35	14	12.1
	Grand Total	16100	4232.61	10129	2225.94	6527	1670.72	4144	2506.47

(Amount in lakh)

Table-4
Details of Calendar Year wise Cyber Frauds in Foreign Banks⁷

S. No	Bank Name	2009		2010		2011		2012	
		No. of Cases	Amount involved	No. of Cases	Amount involved	No. of Cases	Amount involved	No. of Cases	Amount involved
1	American Express Banking Corp.	980	904.57	819	360.75	908	522.76	1231	816.99
2	Barclays Bank Plc	35	21.68	48	8.38	14	6.03	7	1.11
3	Citibank N.A.	1226	773.18	925	521.27	774	420.01	1504	690.32
4	Deutsche Bank (Asia)	61	116.64	35	81.94	9	13.67	2	34.74
5	Hongkong & Shanghai Banking Corporation Ltd.	3093	722.45	2520	293.02	793	181.41	709	180.73
6	Standard Chartered Bank	374	356.37	386	187.52	435	185.11	511	207.96
	Grand Total	5769	2894.89	4733	1452.88	2933	1328.99	3964	1931.85

(Amount in lakh)

Data of table-3 reveals that private sector banks had the largest share in banking cyber frauds not only in number of cases but also in terms of money. But the noticeable point is their falling trend. The number of cases came down from 16100 in 2009 to 4144 in 2012. Similarly the amount also came down from 4232.61 lakhs in 2009 to 1670.72 in 2011, but it again rose to 2506.47 in 2012. However, overall a declining trend has been observed in cyber frauds in private sector bank.

ICICI bank had a highest position in cyber frauds during this four years period showing a very high number of cases and large money involved. HDFC and Axis Banks followed the position respectively with a sudden rise in value by Axis Bank in 2012. This can be easily understood by figure-3.

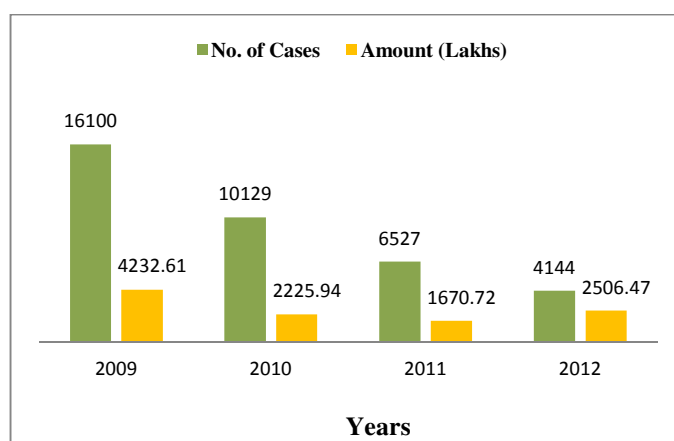


Figure-3
Details of Calendar Year wise Cyber Frauds in Private Sector Banks

The status of cyber crime cases in foreign bank can be observed from table-4, which shows that cyber frauds are there in such banks to a great extent. Even after somewhat declining trend, the year 2012, like in case of public and private sector banks, has shown a rise in number and amount of fraud cases.

The table also shows that HSBC, which had the largest share in 2009, has corrected the situation up to 2012 while two other leading banks Citibank and American Express have surpassed HSBC. Figure-4 portrays the same.

Inter Banking Sector Comparative Analysis: Banking cyber fraud data of public, private and foreign sector banks have been depicted in figure-5 and figure-6 respectively.

If look at figure-5, which portrays the number of fraud cases from 2009 to 2012, it is obvious that private sector banks have gone far away recording very large number of cases. Foreign banks are no different either. Monetary loss wise also both kinds of banks have made a bad picture. However, public sector banks demonstrate very nominal number of cases. But, a substantial drop has been noticed in the cases in both, private and foreign banks, which suggests major and stricter check over the operations.

Monetary involvement in fraud cases has been shown in figure-6. Here also both private sector banks and foreign banks are much ahead of public sector banks. After a declining trend up to 2011, the value again ascended in 2012.

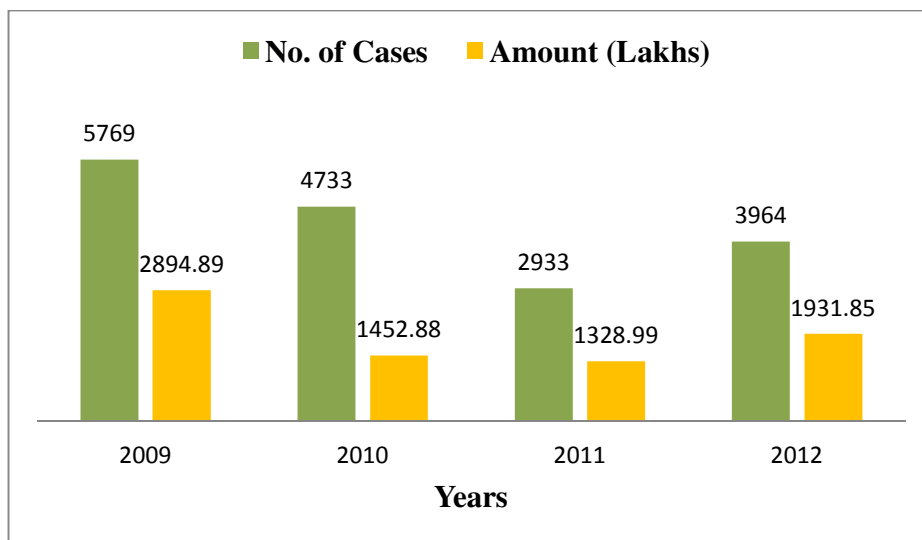


Figure-4
 Details of Calendar Year wise Cyber Frauds in Foreign Banks

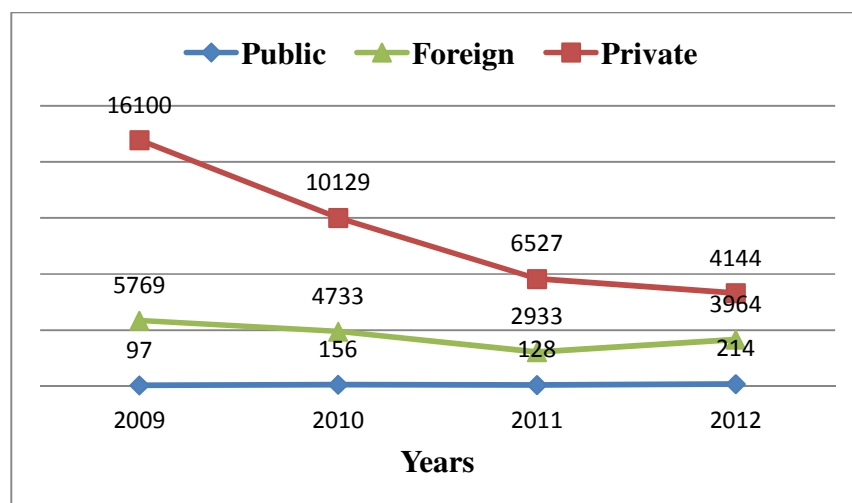


Figure-5
 Banking Sector wise No. of Cases

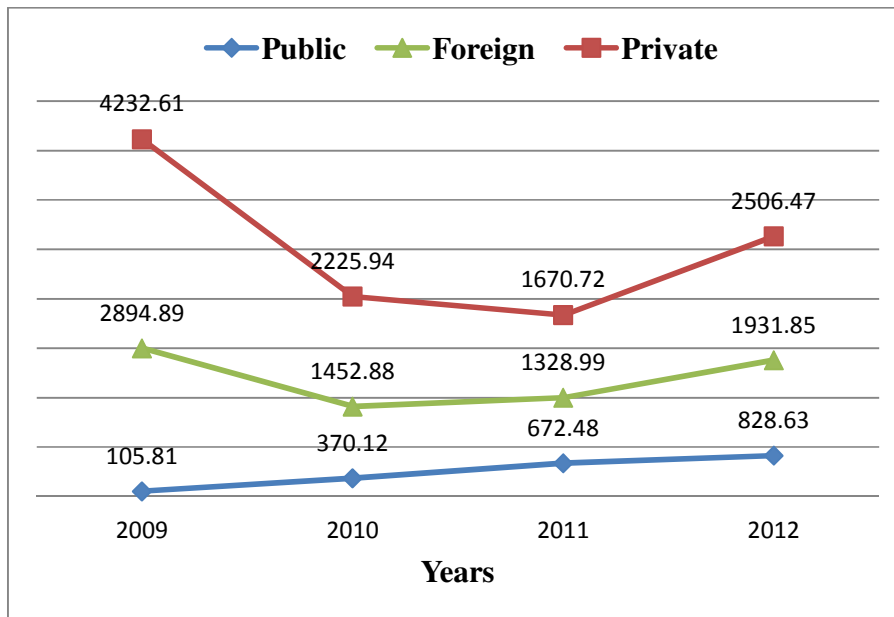


Figure-6
Banking Sector wise Amount Involved (in lakhs)

Conclusion

Titled study showed a bigger share of private and foreign banks in frauds related to online banking, ATM, cards and other digital banking transactions. Even with the reducing number of cases, the value of such cases did not come down proportionately. Banking cyber frauds in the country are the result of introductory phase of banking technology like ATM, online banking, mobile banking, EFT etc. which need time for people, market and technology to get matured. Regulatory framework also gets stronger by experience. Recently RBI has issued guidelines suggesting measures and reporting methods of cyber fraud cases to be followed by the banks.

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