



A Study of Online Banking Scams / Frauds In India

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Abstract:

India has adopted the policy of digitalization in 2016. Since that the number of online bank frauds have grown with much higher rate. Especially the frauds like phishing, vishing, ATM frauds etc. The research asserts that such frauds in public sector banks are much higher than that of the private sector banks. The research has shown that even if the number of fraud is decreasing in both private and public sector banks; the amount of scams is much higher in the public sector bank than that of the private sector banks.

Fraudulent activity has generally decreased across public, private, and foreign banks, along with other financial institutions. However, in 2023-24, small finance banks experienced a notable rise in fraud, increasing from ₹31 crore to ₹64 crore, and payments banks saw an increase from ₹7 crore to ₹35 crore. Public sector banks reported a significant reduction in fraud, from ₹77,879 crore in 2020-21 to ₹10,507 crore in 2023-24, a decrease of 86.5%. Similarly, private sector banks saw a decline from ₹45,515 crore in 2020-21 to ₹3,170 crore in 2023-24, a 93% drop.

To prove this t-test for two sample means have been applied and the results were quiet satisfactory as the p value of 0.0219 (one-tailed) and 0.0437 (two-tailed), both of which are below the 0.05 threshold. Which was enough to reject the null hypothesis. Public Sector Banks exhibit higher and more variable performance compared to Private Sector Banks, with a significant statistical difference.

Keywords: Following are some of the keywords that have used in this research article: *online frauds, phishing, vishing, fraudsters, public sector banks, private sector banks, foreign banks, small finance banks, payment banks, reserve bank of India, NCRB, national cyber-crime reporting portal etc.*

Introduction:

The digital ecosystem in India has been continuously growing since 3rd demonetization (2016). The government had taken the initiatives like, digital India, make in India to come up with its own indigenous initiatives like UPI, USSD, Aadhar payments, IMPS & JAM system. These systems have eased the consumers, traders and beneficiaries of the different government schemes.

The financial literacy rate of India (27%) is still well under the global average of the other countries (35%). There has been the existence of the online frauds but after the covid there has been significant rise in the online scams all over India. There has been a lot of patterns in these scams some of the important types are phishing, credit card scams, investment scams etc. A study suggests that the number of cases have

increased by 113.7% in 2024 from 69% in 2022-23.

The research will be studying the amount of frauds that have happened in various types of banks including Public Sector Banks, Private Sector Banks, Foreign Banks, Financial Institutions, Small Finance Banks and Payments Banks.

Types of Online Frauds:

Digital payment methods have become increasingly popular due to their ability to simplify financial transactions. While they offer great benefits to customers, they have also attracted a significant number of fraudsters, contributing to a large share of white-collar crimes being investigated by authorities. Addressing the risks of fraud is not something any bank desires, but given the rising uncertainty in the global business environment, financial crimes are expected to increase.

A robust banking system is essential for a nation's economic development. Although the banking industry is thriving, it faces challenges such as scams. With various economic factors in play, the role of the banking sector has shifted, placing it at the forefront of anti-fraud strategies. Banks are now required to adopt frameworks to better assess and mitigate fraud risks. However, despite these efforts, the financial losses due to fraud continue to rise, with significant amounts of money being misappropriated in these crimes.

The Reserve Bank of India, alongside banking institutions, is working to raise awareness about digital payment frauds. To address this, the RBI has published a booklet that highlights common scams and provides guidance on

how to avoid them. Bank fraud is a serious crime, and fraudsters continue to exploit loopholes to deceive customers in various ways, undermining trust in the financial system. It is essential to stay vigilant against banking frauds and understand the different types that exist.

1. **Phishing:** Phishing is an online scam and one of the major global problems faced by Banks worldwide. It is an attempt to 'fish' for your banking details where "phishers" gain customer account information such as user names, passwords, PINs, or Social Security digits. Fraudsters create a phishing website with pop-ups or links that appear to be from known institutions like banks, popular e-commerce websites, search engines, government agencies, etc. Through these deceptive communications, the fraudsters distribute links to different websites by SMS, social media, email, Instant Messenger, etc, and gain your confidential information.
2. **Vishing:** Similar to the phishing in case of Vishing by using calls. Through communication they get customer account information such as user names, passwords, PINs, or Social Security digits etc and use this information to scam the person.
3. **Loan Frauds:** In this type of the scam fraudsters use the details of the consumer to get the loans from the banks with obviously no intentions of repayments. The worst thing about "loan frauds" is that the person whose details are being used have no idea that there is loan going on along his name.
4. **ATM/Credit Card Frauds:** this one of the most sophisticatedly and vastly

used tricks of the scammers. Where scammers use some devices like skimming devices, card tripping devices to gain the card details and PINs of the unaware customers.

5. **Fake Banking Applications:** Fraudsters make the exactly same interface of the application of the banks and gains the confidence of the customers to loot them.

Literature Review :

Annual reports of the Reserve Bank of India (2020 -2023) suggested that there has been significant increase in the online frauds after 2020.

It is argued that the citizens fall for the traps of the scammers due to the greed of the “easy money” and “lack of financial literacy” *between Jan and Apr of 2024.* & *Online scam on rise in India, here is what to do if you end up losing money to fraudsters.* Divya Bhati *May 21, 2024* The significant escalation in reported cases is evident from 2019 to 2024, with 26,049 complaints recorded in 2019, 257,777 in 2020, 452,414 in 2021, 966,790 in 2022, 1,556,218 in 2023, and 740,957 in the first four months of 2024 alone. Most victims fell prey to online investment fraud, gaming apps, algorithm manipulations, illegal lending apps, sextortion, and OTP scams.

According to the data from I4C, investment scams resulted in a loss of Rs 222 crore across 62,687 complaints, while dating apps caused losses amounting to Rs 13.23 crore in 1,725 complaints. The total financial toll inflicted by cybercriminals on Indians from January to April 2024 reached Rs 176 crore.

Flipkart Users Targeted In Festival Season Scam: Scammers Exploit Later Feature,

Demand OTPs Moinak Pal Oct 21, 2024 Even in recent days during the “Flipkart Big Billion

Day Sales” the fraudsters have scammed many customers of the Flipkart by asking them OTPs.

Statement of the Problem:

The amount of fraud cases has raised significantly after covid-19 and it has shown its peak with 176 cr. in the Q1 of the 2024. So, it is important to understand the causes of these online frauds.

Objectives of the Study:

1. To study the growth of the numbers of the online scams and their size in Indian economy.
2. To study the volume of online frauds in the different types of banks in India.

Hypothesis:

H0: Government sector banks have lower numbers of fraud than that of private sector banks.

H1: Government sector banks have higher numbers of fraud than that of private sector banks.

Limitations:

1. The study is limited to the financial years 2020-21 to 2023-24.
2. The data is only used from the annual financial reports of Reserve Bank of India.
3. The frauds below the monetary value of Rs. 1 lakh is not included in the data by Reserve Bank of India.

Research Methodology:

This study will be mainly based on the secondary data gathered through different reports and data published by various agencies. For this the RBI Annual reports. Moreover, newspapers, research papers, periodicals and Journals will be used to prepare report.

Tools of Analysis:

The tools that I have used in for this study are average, arithmetic mean,

standard deviation, skewness, kurtosis and t-test for hypothesis testing.

Data Collection:

During the study of RBI's annual reports from 2021 to 2024 I have gathered the data of public sector banks, private sector banks, financial institutions, foreign banks, small finance banks and payment banks. The following table replicates the data of the same.

Table 1: Fraud Cases: Bank - Group wise

Year	Public Sector Banks	Private Sector Banks	Foreign Banks	Financial Institutions	Small Finance Banks	Payments Banks
2020-21	77,879	45,515	3110	5853	30	2
2021-22	40,015	17,387	1,206	1,178	30	1
2022-23	21,125	8,727	292	70	31	7
2023-24	10,507	3,170	154	0	64	35

(Source: Secondary Data Collection - RBI annual report 2022-23 & 2023-24)

The above table shows the amount of banking frauds are shown in crores.

We can observe that the amount involved in frauds have been decreasing in public sector banks, private banks, foreign banks and other types of financial institutions. But in the year of 2023-24 the amount has shown a spectacular rise among the small finance banks from 31 cr. to 64 cr. and payments banks from 7 cr. to 35 cr.

Private Sector banks have reported 45,515 cr. worth of online frauds in 2020-21 and 17,387 cr. in 2021-22. Which shows the decline of 38.20% only in one year and if we observe that in year 2023-24 the amount is as less as 3,170 cr. which is only 6.96% of the year 2020-21.

whereas financial institutions have shown that there has been no report of any online fraud in the year of 2023-24. the year of 2020-21. Which has reduced in the next year up to 40,015 cr which shows decrease of 48.61% than that of the year 2020-21. In the year 2023-24 the frauds worth 10,507 cr. have got reported. Which was nearly 13.49% of the year 2020-21.

Hypothesis Testing:

For the purpose of hypothesis testing t-test was used. I have used the t-test because it is used for the evaluation whether a single group differs from a known value, or if two groups differ from each other. It is also be used to determine if there is a significant difference in paired measurements. Another reason that I have used this test because the sample size was less than 30. The results are as follows:

Table 2: Findings of the t-test for hypothesis testing.

	Public Sector Banks	Private Sector Banks
Mean	37381.5	18699.75
Variance	877831790.3	353803274.3
Observations	4	4
Pearson Correlation	0.994066138	
Hypothesized Mean Difference	0	
Df	3	
t Stat	3.360015563	
P(T<=t) one-tail	0.021866409	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.043732818	
t Critical two-tail	3.182446305	

The t-test is applied for the two paired samples to the above data of the Public Sector Banks and Private Sector Banks. The test shows that the person correlation stands at 0.99. The analysis compares the mean values of Public Sector Banks and Private Sector Banks based on four observations from each group. The mean value for Public Sector Banks is significantly higher at 37,381.5 compared to 18,699.75 for Private Sector Banks. The variance for Public Sector Banks (877,831,790.3) is also higher, indicating greater variability in the data. A Pearson correlation of 0.994 suggests a

As the p value of the t-test is 0.0218 which is less than 5% i.e. level of significance we may conclude that **the hypothesis H0 is rejected and H1**

Findings:

During the course study what I found from the observation was as follows:

1. Because of financial inclusion measures in India people show more tendency to have bank account in Public Sector Banks

strong positive relationship between the two bank sectors. The t-test results show that the difference in means is statistically significant, with a t- statistic of 3.36, which exceeds the critical value of 2.35 for a one-tailed test, and a p-value of 0.0219 (one-tailed) and 0.0437 (two-tailed), both of which are below the 0.05 threshold. This indicates strong evidence to reject the null hypothesis of no mean difference. Overall, Public Sector Banks exhibit higher and more variable performance compared to Private Sector Banks, with a significant statistical difference.

stands accepted . Thus, we can conclude that the Public Sector Banks have high number of online frauds than that of Private Sector Banks.

- that has increased the number of bank accounts in Public Sector Banks.
- 2. Many companies shares the details of the consumers that includes UIDAI details, PAN details, mobile numbers etc.
- 3. This type of data theft leads to the vast data to the fraudulent and scammers.

4. Awareness about such frauds by government, RBI and cyber-crime department.
5. Major security updates are being provided by the software banks.
6. Positive steps have been taken by banks and some apex institutions in order to increase financial literacy among the customers.
7. Police has started some innovative ideas like digital arrest to the culprits.
8. Ministry of home affairs have started some public awareness activities like "Cyber Suraksha Saptah", at the same time universities have also included "Cyber Security" as a subject for add-on courses in their curriculums.

Suggestions:

Customers can use following measures for not to get scammed:

1. They should enable double authentication for the applications that they use on daily basis.

Research Gap:

Major reports and statistics are showing only the scams above Rs 1lac but there could be a large number of scams that might have the valuation below 1lac rupees.

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One must be cautious while sharing bank details and other important personal details and credentials. There must be report the actions immediately to the National Cyber Crime reporting Portal that works under the Ministry of Home Affairs by using tollfree number 1930.

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