

CHAPTER

Safeguarding Your Finances: Online banking and banking fraud

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ABSTRACT

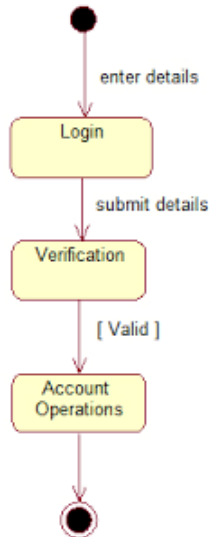
Online banking is the most important and useful way for money transaction in these days & useful for time saving also. This Chapter will examine the various benefits of online banking and issues of online banking. It aims to examine the coverage to which bank employees follow the different fraud expectation procedures including the ones prearranged by Reserve Bank of India. Its aims to offer an approaching on the observation of bank employees towards defensive mechanism and their responsiveness towards various frauds. A well-built system of interior manage and good employment practices avoid frauds and take the edge off losses. The consequences indicate that lack knowledge about updated s/w, about technology, different kind of mechanism, lack of training, opposition and low observance level are the main reason for bank frauds. The banks should take the expanding graph of bank frauds sincerely and need to make sure that there is no acceptance in internal control mechanism. This chapter will also focus on the benefits of online banking and the future scope.

INTRODUCTION

Now a day's online banking is one of the most useful technology in the world. Most of the banking transactions are done using online banking, which is called internet banking. It is very helpful for those who do not want to go to the bank because of maybe it takes time. Therefore, main purpose can be "It's time saving". During pandemic situation, online banking was very useful for the users to pay bills online without touch the physical notes or note. It is the easiest way that customer can check their account from anywhere in the world, anyone can transfer money from one account to another, customer can view the statement, account balance and so on just using an app or through the bank website. So easy to use.

The main benefits of internet banking includes accessibility, rapidity and flexibility.

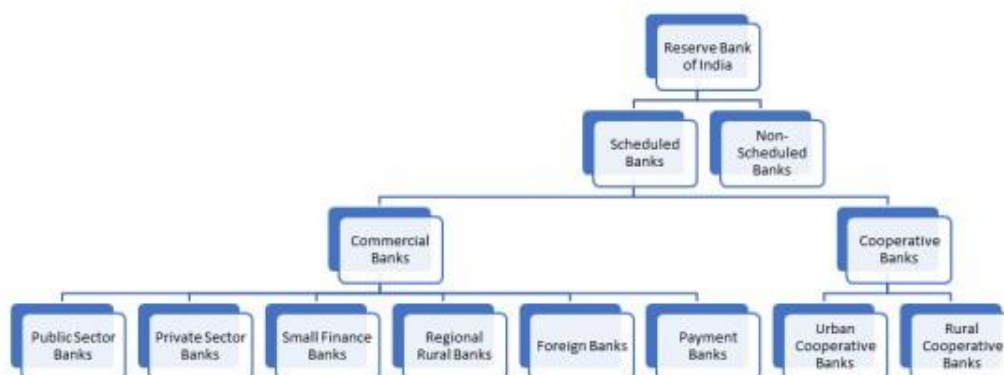
Login process of Internet Banking



Now online transaction is not secure because now it is possible by the hacker to hack the account, transfer the money etc. In this chapter will discuss the various issues of bank frauds from the perception of banking industry. Now Bank account fraud is a significant challenge faced by financial institutions worldwide. It involves unauthorized access, manipulation, or exploitation of bank accounts for fraudulent purposes. The impact of bank account fraud is substantial, leading to financial losses for both individuals and financial institutions, as well as eroding customer trust.

Detecting and preventing bank account fraud requires the development of robust strategies and technologies that can identify suspicious activities, protect customer assets, and mitigate potential risks. So many ways of online bank frauds, such as phishing scam, malware infection and ghost websites. Effective and efficient detection of internet banking frauds is regarded as a major challenge to all banks, and is a rising cause for concern.

Banking Structure in India



BENEFITS OF INTERNET BANKING FOR SOCIETY

There are plenty of benefits offered by banks to customers who adopt internet banking over the traditional visit physically to the bank.

1. Visibility Improvement of account balance, fund transaction and account statement, we do not need to visit bank for the banking statement, now easily we can choose the month and download the statement.
2. Easily accessible from anywhere. In today's generation most of the users are working and in week days it's almost impossible to visit bank for a particular work, so we need to take a leave from our work place only for that particular work, so using online banking we can do the transaction from our work place also, which is very convenient for all of us. Even if we are travelling then also we can access our account.
3. Easily access at any time, 24 x 7 availability. So, not depend on bank timing as well as bank staffs availability.
For an example, if we went to bank after 3:00 pm, bank staffs usually occupied with the closing work, so usually they don't do the new transaction after 3:00 pm and because of the same we need to go bank again next day for that same transaction, which is time consuming and as well as waste of time of the users.
4. No chance of calculation mistake or , Manually there are chance of calculation or numeric written mistake
5. Profit to bank, Banks gain more profit meaningfully by the use of internet banking as it require lesser physical effort from their end.
6. Using online banking, we can set auto deduction from our account monthly; even we can set a particular date whenever we want to do the deduction. No need to visit bank physically every month. Therefore, automatically it is save the time of users as well as bank staffs.

- Other benefits of internet banking is that it is good for the environment as it cuts down the usage of paper, reduces pollution as people do not have travel physically and also does not add emission.

THE PROBLEM WE CAN FACE USING ONLINE BANKING & SECURITY ISSUES

Every day there are millions of financial transactions that occur when bank information is hacked by skilled criminal by manipulating data. Years ago, evolution of attacks began that is known as phishing, where hackers create links for hacking and send to the banking users.

Recent study by the University of Michigan, more than 75 percent of bank websites have at least one design flaw that to theft of customer information and flows are ones that even an expert user would find difficult to detect and unlike bugs, cannot be fixed with a patch. It was recommended to use SSL throughout the entire websites and avoid using the links of third party websites for secure banking.

Types of Frauds Prevalent in the Indian Banking Industry

Bribery and corruption	Cybercrime	Multiple funding	Counterfeit cheques
Terrorist Financing	Data Security	Identity theft	Tunneling
Money Laundering	Loan loss	Internet banking frauds	Absence of collaterals
Tax Evasion	Fraudulent documentation	Incorrect sanctioning	Mobile Banking Risks

Reliability Risk: Internet allows us to use the services of internet banking from anywhere in the world at any time as well as from any system, which may not be secure enough.

Information Leakage: personal information like bank account details, account holder name and so on leakage from third party internet banking sites. These sites are not reliable.

Lack of transparency: Complex financial transactions are difficult to understand, it is an idea method to hide a fraud. The fraud can be done with the use of an accounting dump account that no one understood and unknowingly the user put all the personal details as hacker require to do hacking.

Poor management information: A company management information system does not produce results timely, accurate, sufficiently detailed and relevant, in this way these become the reason of fraud.

Excessively generous performance bonus payment: the more generous the bonus coupled to a demanding target. The more temptation there is to manipulate results; there is no yearend sales figure to reach that target.

Poor accounting controls: Monthly reconciliation of the bank account are lapse the signals.

Arrogance: Some people believe that they are better than the system and they can get away with anything.

Poverty: Poverty is also one of the main reasons of frauds. People cannot fulfill their needs so they do these kinds of frauds to fulfill their needs or luxuries.

Entertainment: Some people will do such these kinds of things for their fun, without bothering the results of their actions.

Network: Sometimes network cannot work properly so the systems and the accounts can easily trace. They do not have a strong network connection, updated mechanism and better s/w.

Careless: People are careless about their work or an organization. They cannot take it serious, in the way they give a chance to thief to do frauds.

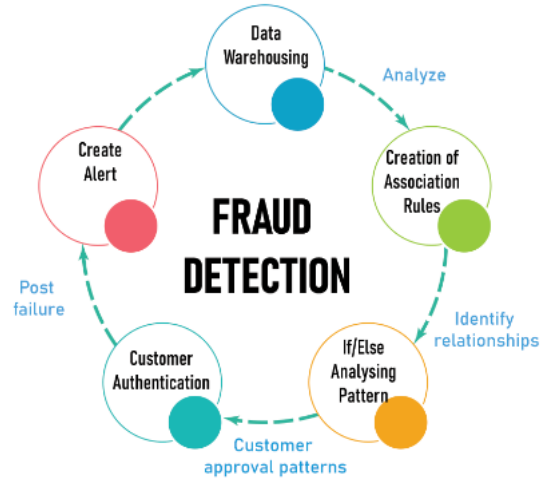
Lack of Training: Lack of training in bank employs as well as users. Therefore, they are not aware about updated technology, mechanism and protected s/w.

FUTURE SCOPE OF INTERNET BANKING

In Today's busy schedule users do not wants to go bank physically, so the number of customers utilizing online banking services continues to rise. To ensure customer satisfaction and trust in the security of their online bank accounts, it is crucial for banks to identify the modus operandi of these criminals.

It is essential for bank employees to handle accounts with utmost care and alertness, ensuring that all necessary security protocols are followed diligently. By prioritizing both technological safeguards and the human factor, the banking industry can effectively minimize the risk of fraudulent activities and protect the financial interests of their customers and commercial entities.

Way of Fraud Detection in the Indian Banking Industry

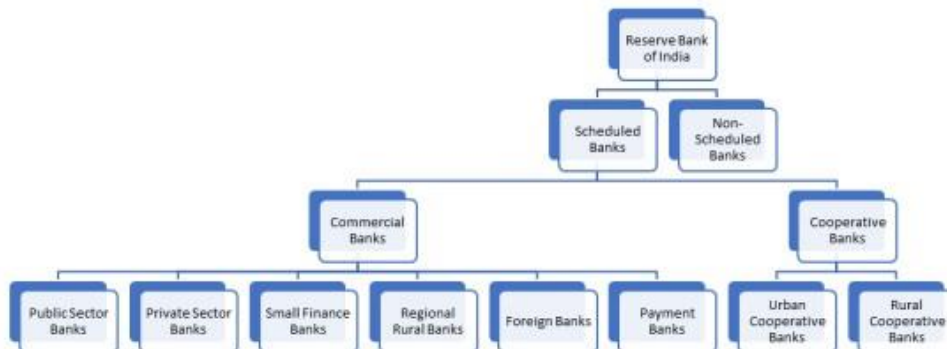


Literature Review: Methods for Detecting and Preventing Bank Account Fraud

Bank account fraud is a significant concern in today's digital age, where online banking services have become increasingly popular. Researchers and scientists have conducted various studies to identify the causes of bank account fraud and develop effective measures for its detection and prevention. This literature review aims to provide an overview of the different methods used in these studies to address the issue of bank account fraud.

Palchenla Sherpa [1], one study focused on detecting bank account fraud using the Computer Emergency Response Team (CERT) and legal frameworks, LAW. The researchers aimed to prevent cybercrime by understanding its nature, minimizing the damage caused, enhancing security measures, and increasing awareness among users. The study found that factors such as unemployment, insufficient banking supervision, lack of awareness about advanced tools and technology, and poor knowledge of computer system strategies contribute to the rise in cyber fraud. The researchers recommended enforcing laws and regulations, such as Know Your Customer (KYC) protocols, to mitigate fraud.

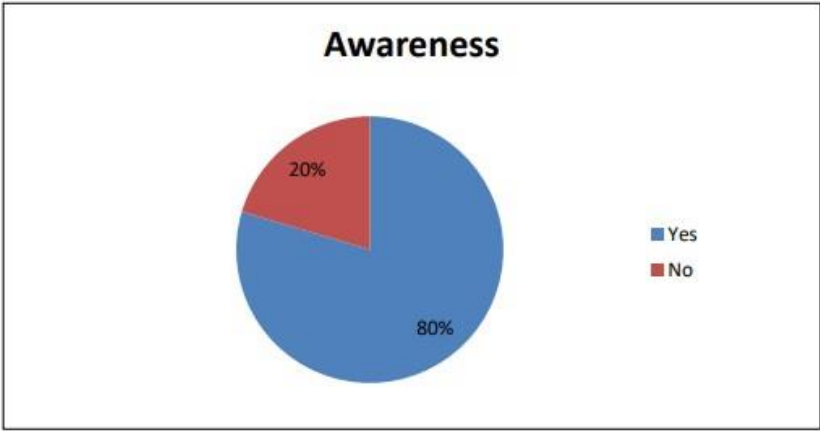
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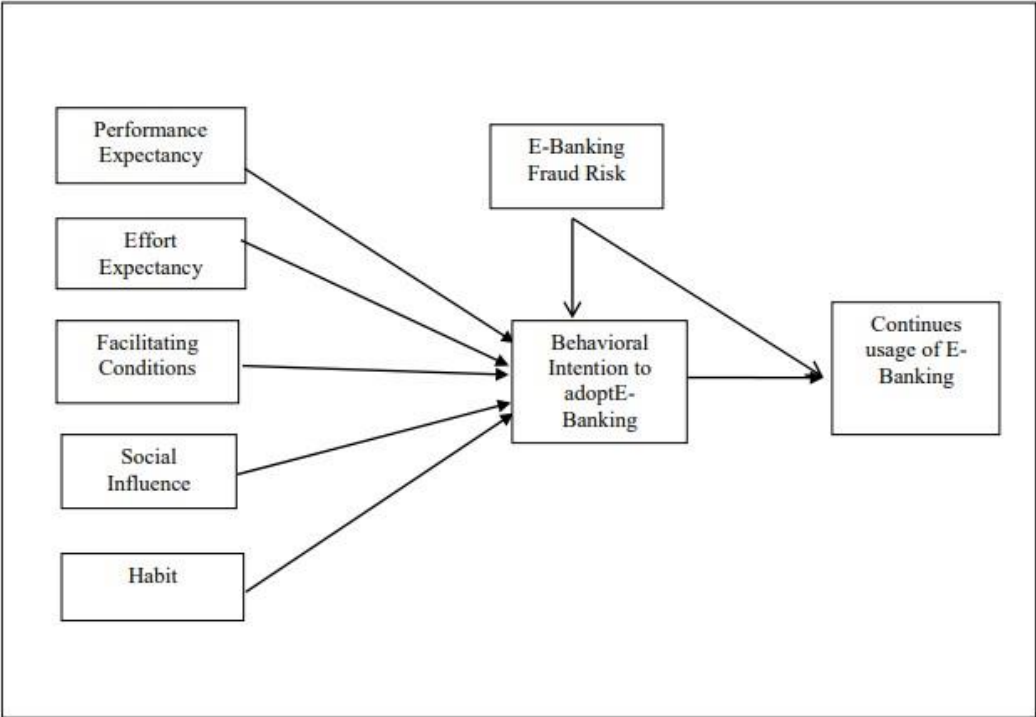
Monica Yadav [2], focused on investigated the nature of frauds in the banking sector in India, particularly related to E-banking. The researchers analyzed the impact of technological advancements and the absence of incentive mechanisms for employees. They highlighted the need for governmental control and internal control measures to prevent insider fraud. The study emphasized the importance of updated software and technology for improved security in E-banking.

VarshaYadav[3], in this study utilized Structural Equation Modelling (SEM) and Regression Analysis to understand users' awareness of E-banking fraud and its impact on E-banking services. The study aimed to develop models and strategies to enhance users' understanding of E-banking fraud. The researchers found that increasing awareness and implementing social, technical, and legal measures play a crucial role in preventing fraud. They recommended conducting studies with a broader demographic profile to obtain more results that are comprehensive.

Awareness	
Yes	390
No	100
Total	490

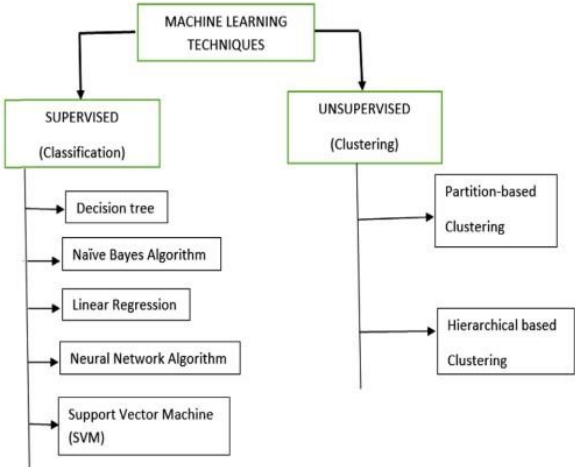


Research model to explain the users the role of E-banking fraud on E-banking services implementation,



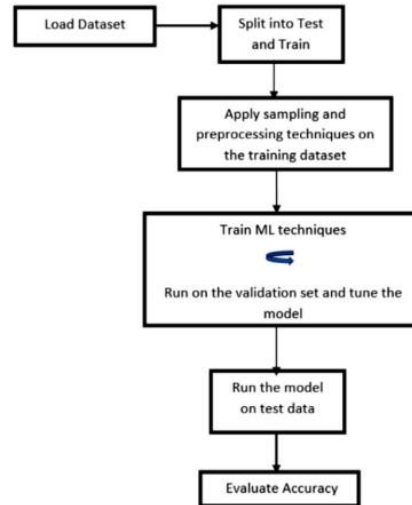
M.J. Madhurya, H.L. Gururaj, B.C. Soundarya et al [4], In this study the researchers used ML Algorithms, Neural Networking models, Classification and Clustering techniques as a main tool. They also investigate the feasible and efficient methods and try to find the ways of fraud detection. ML and other correlated approaches are generally used as an example, ANN (Artificial Neural Network), the method of rule induction system, Logistic Regression (LR), Decision Trees (DT), and the Support Vector Machine etc.

Classification methods of Machine Learning



They found ML Algorithms and AI Techniques have the ability to solve the various problems from the diverse disciplines and fields as normally process for large volume of data.

The flow process diagram for developing a machine-learning model



Main factor behind this paper is to analyze the performance, accuracy, efficiency of different ML. Where they found big need to apply and analyze the strength of ML Algorithm.

Suggestion and scope: In this paper with the effective usages of these algorithm such as Naive Bayes, K-Nearest Neighbor and Logistic Regression methods, Random Forest Classifiers, Decision Trees they try to calculate the result , they used different stages as gathering the data, cleaning data, researching and visualization of data and training the classifier algorithms and finally they evaluate the result. In future work the researcher can work on performance of other ML Techniques , the accuracy of XG Boost, Random forest etc. . ML should test more efficiently to detect the fraud. Using different domain and varied patterns can be used for the better performance.

Tika Ram Rai[5], This study determined on the trouble of banking fraud as perceived by operational and branch managers to investigate the causes and preventions of fraud in the banking sector. The main objective of this study is mentioned in two-fold,Firstly find the Bank officials observed causes of banking frauds and second to observe bank representatives perceived deterrent methods of banking frauds.From the documentary analysis in this review, eight most important elements were categorized, such as accounting and poor internal control, information technology, legal system, management override of control, ethical value, collusion with customers and vendors, training and aware ness program and dissatisfaction among employees.

The causes and prevention of Banking Frauds

Causes of banking frauds	Preventions of banking frauds
X2 = Information technology & poor data base management	X1= Accounting and Internal control
X4 =Management override of control	X3 = Legal system
X6 =Collusion with employees, customers and vendors	X5 = Ethical value
X8 =Dissatisfaction among employee	X7=Training to employee and awareness program to customers

Suggestion and scope: Firstly, this study was appropriately selected thus the results may not be generalizable. Secondly this study used graphic statistics exclusively although a further study cross-sectional with the help of inferential statistics is recommended. Offenders are often found to overcome human resources working against fraud. But of course, if the fraud causes and measures are identified in time, we can avoid potential damage. Other major perceived fraud indicates that complicity with authorized employee, users and vendors, IT team and poor data base management, training to employee and awareness to users, internal control, legal system and ethical values.

MadanLalBhasin[6], in this study the researcher found that fraud is a worldwide phenomenon that influences all continents and all economic sectors. In rapidly developing countries as India the fraud increasing day by day and the fraudsters now also trying to innovate new methods as hacking apps or site using technology. Main challenging aspects in the Indian banking sector is make banking transaction free form electronic crime and there are no such law and legal way to stop this forever. Using the data analysis software banks or economic sectors can detect fraud sooner and reduce the negative impact of significant losses.

This study is both descriptive and analytical in nature. For the descriptive part this study conducted questionnaire-based survey among 345 bank employees of National Capital Region area and for the analytical part incorporated the issues about in the banking industry how to integrate technology in order to detect and prevent banking fraud in Indian Banks. This study also examined the solution available using technology and way to integrate the forensic approach to detect bank fraud In the Indian Banking Industry. The researcher also uses the Neural Network to know about the previous bank fraud cases, to learn the various system of trends for fraud.

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Suggestion and scope: This study indicates the limit of separation of duties, documentation, professionalism; Bank managers compliance level is low although notice that internal checks are higher than. As a global trend, customers complaints which is followed by internal or external tip. Internal audit professionals can play an integral role in this fraud detection.

ANALYSIS

The studies reviewed in this literature review highlight various methods used by researchers and scientists to detect and prevent bank account fraud. These methods include utilizing CERT and legal frameworks, analyzing E-banking and governmental frameworks, employing machine learning techniques, and investigating causes and prevention measures. The findings emphasize the importance of regulatory control, technological advancements, user awareness, and efficient internal controls to mitigate the risks of bank account fraud. Future research should focus on exploring advanced technologies, integrating forensic approaches, and addressing research gaps to improve fraud detection and prevention in the banking sector.

CONCLUSION

The utilization of a large database of logged banking transactions provided a solid foundation for training and validating the logistic regression model. This extensive dataset allowed the model to learn and identify patterns and characteristics associated with fraudulent transactions. As a result, the model's ability to detect and classify fraud improved, providing enhanced accuracy in identifying potential instances of fraudulent activities within the banking system.

In conclusion, the implementation of a fraud detection solution based on logistic regression, utilizing a large database of logged banking transactions, holds tremendous potential in improving the security of banking systems. By leveraging the predictive capabilities of logistic regression, banks can proactively identify and prevent fraudulent activities, thereby protecting their customers and preserving the reputation and financial stability of the institution. With continuous advancements in fraud detection technologies and ongoing collaboration among industry stakeholders, we can further enhance the effectiveness of such solutions and stay ahead of emerging fraudulent schemes.

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