Journal of Critical Reviews

ISSN- 2394-5125 Vol 7, Issue 4, 2020

Review Article

SIGNIFICANCE OF FRAUD ANALYTICS IN INDIAN BANKING SECTORS

P. Mary Jeyanthi[1], A. Mansurali[2], V. Harish[3], V.D. Krishnaveni[4]

[1]Institute of Management Technology, Nagpur.
[2] PSG Institute of Management, PSG College of Technology, Coimbatore.
[3]PSG Institute of Management, PSG College of Technology, Coimbatore.
[4]PSG Institute of Management, PSG College of Technology, Coimbatore.

Received: 09.12.2019 *Revised: 21.01.2020* *Accepted: 24.02.2020*

Abstract

Banks are the motors that drive the tasks in the monetary sector, currency markets and development of an economy. With the quickly developing Banking sectors in India, cheating in banks is also increasing quickly, and fraudsters have begun utilizing spearheading strategies. The fraudsters could start from both internal (representatives) and external sources (customers, providers, temporary workers, and legal advisors). As frugal organizations participate in an extensive variety of exercises, frauds could conceivably influence numerous stakeholders, including the investors, the contributors, the borrowers, the staff and the account managing foundation itself. In the last three years, in India, public sector banks (PSBs) have lost several crores of rupees on account of various banking frauds. According to the RBI laws, the number of account management extortion cases has declined, however, the number of cases has increased in recent times. This paper will focus on different endeavored fake and fraud cases for both internal and external misrepresentation plots in the banking sector. This paper is aimed at explaining and adapting towards giving profitable learning, focuses on bank staff who handle day by day banking activities with a specific goal to help them in recognizing and anticipating the comparable event in case of fraud.

Keywords: Fraud Analytics, Internet Fraud, Banking Sectors, Money Markets, Innovative Methods.

 DOI: http://dx.doi.org/10.31838/jcr.07.04.38

INTRODUCTION

Consequently, banks have large database to solve many problems, for an instance, keeping up individual points of interest of clients to substantial enterprises and they are separate everyday exchanges. The power of saved money and monetary condition of a country takes the generation , merchandise usage and economic ventures in a country. It is specifically demonstrative of prosperity and expectations for everyday comforts of people. Along these lines, if the money-saving framework is dysfunctional with abnormal, non-profitable amounts on accounting bank reports, budgetary trouble of borrower customers and unwanted criteria in transaction systems are the major causes of pressure for the Indian economy. The marvelous opening of branches, development and broadening in business, automation and systems administration, have on the whole expanded the complex operational dangers monitored by banks. Sadly, it is additionally obvious that the industry needs to confront numerous sorts of fakes and tricks. The Reserve Bank of India (RBI) is the focal strategy making and national-level administrative body that monitors the whole money-saving industry [2]. Recently, Pan, S., 2015, declared that "deposits of the Indian banking industry in 2014 is Rs. 81 trillion". The growth in deposits over the years is as shown in the figure below.

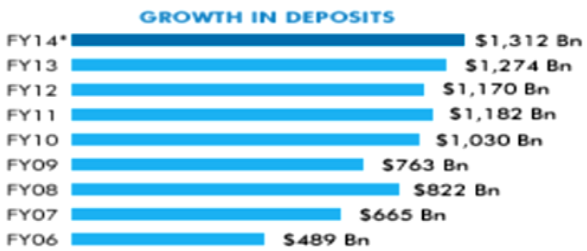

Figure 1: FY 14 – RBI's Growth Estimates

Banks are utilizing the internet and cell phones to complete exchanges and speak with the customers. In addition, as given by KPMG-CII report (2013), "Indian managing an account area can possibly coil up the fifth lead on the planet by 2020, and then third lead by 2025." The terrible truth is that a lion's share of associations that succumb to misrepresentation doesn't set aside the opportunity to completely comprehend the genuine dangers engaged with frauds and along these lines don't attempt endeavors to distinguish and forestall frauds before it really happens. Creating protection measures against frauds, distinguishing the strategies through which frauds can be conferred, building up compelling control measures and setting up extortion determination rules not just enables associations to keep the loss of income and resources, yet additionally enhances the nature of their business forms and their general notoriety in the business condition [4]. This unfortunate advancement creates misfortunes for the banks and seriously influences their validity." A description of fraud was, suggested in the perspective of electronic banking in the article of RBI Working Group, The meaning of fraud was suggested as: "A deliberate act of omission by any individual carried out during a banking transaction ensuing in a wrongful growth to any person for a fleeting period or otherwise, with or without any monetary loss to the bank" [6].

Fraudulent documentation requires changing or altering a document to mislead another person. It also involves approving incorrect information given in documents intentionally. In banks, accounts which are inoperative due to various reasons are susceptible to fraudulent certification.

Some more examples of bank-related fraud are:

- An individual unlawfully acquires individual data/records of someone else and takes an advance for the benefit of that individual.

- Any individual gives false data about their money-related status, for example, pay and different resources, and takes an advance for a sum that surpasses their qualified points of confinement with the intention of non-reimbursement.
- A man takes a credit utilizing an invented name and there is an absence of a solid system relating to spot confirmations of address, due to tirelessness of chiefs/promoters, pre-endorse studies and distinguishing proof of defective/fragmented applications and negative/criminal records in customer history.
- Counterfeit documentation is used to concede overabundance overdraft office and pull back cash.
- A person may produce many documents like bills filed, Guarantee sheet for export and its orders/numbers given by the component specialist.
- Big-ticket bank frauds- In seven out of the last ten years (2008 – 2018) nationalized banks have represented more than two-thirds of the aggregate sum engaged with these fakes.

Web Banking Fraud [6] is a type of data fraud and is generally made conceivable through systems, for example, phishing, lottery misrepresentation trick and so forth. On the whole, the client's personality is the client recognizable proof number and the secret password is given to anchor exchanges gets a kick out of the chance to pay charges, influence buys, to check account subtle elements, exchange funds and so on. Be that as it may, because of senseless slip-ups clients can without much of a stretch fall into the trap of web tricks or fakes done by the fraudsters. An immense measure of assets, time and vitality are spent in creating Corporate Governance Policies, executing inner control frameworks, hazard administration procedures and preparing workers to quickly recognize these issues. However, some unscrupulous, shrewd individuals normally alluded to as fraudsters, still figure out how to discover approaches to supersede frameworks or trick genuine individuals into accessing associations' assets and resources. At first sight, an underlying examination in these cases has uncovered the contribution of not just midlevel workers, but also the senior-most administration as was seen in the recent Syndicate Bank and Indian Bank cases. This raises genuine worry over the adequacy of corporate administration at the most astounding echelons of these banks [7]. Moreover, there has been a rising pattern of non-performing resources (or) assets (NPAs), particularly for the PSBs, in this way seriously affecting their profits. A few causes have been credited to unsafe NPAs, including worldwide and residential log jams, yet there is some proof of a connection between fakes and NPAs also. This instigated us to study the Indian saving money framework from a 360-degree perspective.

LITERATURE REVIEW

Ramana, S.V. and Krishna, S.G., 2017, presented a detailed survey on banking fraud. The authors identified and explained the methods to determine and prevent fraud in small banking products. Further to this, they reported that the Indian banking sector was undergoing the pressure owing to rise in fraud events in recent years. Retail banking is more procedure and volume-driven, and so amplified the fraud incidents in that area; increasing the need to stimulate a wider audit of procedures and prevents to spot the way of frauds. Business intelligence systems provides different ways to enhance decision making process Prem, M. J., & Karnan, M. (2013).

Kundu, S. and Rao, N., 2014, have studied the cases of fraud. A map of the typological trend strategy was adopted for prevention and implementation. Bank frauds arise due to unawareness, situational pressures, and liberal approaches. It was hard to identify in time and significantly harder to book the frauds on account of perplexing and legal prerequisites and procedures. In the dread of harming the banks' notoriety, frequently the cases of frauds are not generally uncovered. Prem, M. J., & Karnan, M. (2014) investigated and provided a detailed review computational intelligence techniques employed for decision making in business.

Khanna, A. and Arora, B., 2009, revealed the execution of different inside control components- they demonstrated that the absence of learning, overburdened staff, rivalry, low consistency level are the primary explanations behind bank frauds. The knowledge on the view of bank staffs towards the preventive system and their mindfulness towards different frauds and the significance of preparing counteractive action of bank frauds were considered. Pattanayak, D., Dixit, D.,2016 et al., covered the issues of the Banking frauds and mounted credit and debit cards, with detailed analysis using secondary data, an interview-based approach and spanned across all players involved in reporting misconduct. The author finally proposed some ideas to prevent the happening of fraud in the Indian banking division. The authority of third parties are also questioned in this study and it was alleged to be a main cause among others.

Yego, J.K., 2016, founded that fraud is recognized as a crucial crisis within the bank, even supposing the relative extent of fraud conducted was simple and comparatively small. Currently, most of banks use standard procedures to detect and prevent the fraud. However, these procedures do not perform well. The Fraud Triangle (FT) functioned energetically to identity the motifs of bank frauds explained by the respondents. Yet, from this study, the author discovered that the FT is not successful in illuminating the predatory and collusive nature of instances such as the Kenyan bank fake - a major problem in the bank. Bhasin, M.L., 2016, conducted a survey based on a questionnaire in 2012-13 among 345 bank staffs “to know their opinion towards bank frauds as well as evaluate the aspects that influence the extent of their compliance point.” And also discussed that “there were poor employment practices as well as lack of effective training; weak internal control systems, over-burdened staff and low compliance levels on the part of bank managers, officers, and clerks.

Pani, L.K., Swain, S. and Swain, S., 2014, discussed the various facets of fraud in the Indian banking sector and evaluated the statistics included with fraud premise secondary data available from reliable sources, and furthermore investigated the same. Each type, namely KYC associated and other technological features, was discussed with reasons, and they also discussed the different aspects of fraud in the Indian banking system. Anthala, H.R., 2018, revealed the frauds and misconduct committed by criminals, outsiders customers and employees of the banks and financial institutions and other State, Central and Local bodies, private and public sectors. Jeyanthi, P. M. (2018) specifies the Internet of People, Things & Services (IoPTS) as the visualization where people, things and services are effortlessly integrated into the internet as active participants which exchange data about itself and their perceived nearby environments over a network-based infrastructure.

Tech America Foundation characterized huge information as: "a term that portrays huge volumes of high speed, intricate and variable information that require propelled methods and advancements to authorize the stockpiling, identify, conveyance, examination, and administration of the data."

AN OBJECTIVE OF THE STUDY

- To present the framework related to fraud in banking products.
- To study the types of frauds in banking products.
- To study fraud identification in banking products.
- To study the internal management system to reduce fraud in loans and advances.

RESEARCH METHODOLOGY

Bank fraud is well used to criminally get cash, assists, or different resources claimed or kept by a financial establishment, or to achieve cash from a financial specialist by falsely acting as a bank or other monetary organization. Bank fraud is an illegal offense [8]. The term bank fraud applies to occasions that use a plan, as conflicting to bank robbery. The present empirical study has been incorporated by the collection of secondary data. Secondary data from journals, magazines, newspapers, research articles and reports of various banks and websites are used in this study.

Figure 2: Current Fraud Risks that are of high concern to Banks/ Financial Institution

Source: Story reported on 17 Oct 2014 and published in The Times of India - http://timesofindia.indiatimes.com/tech/tech-news/Cybercrimecases-shot-up-in-last-10-years-Telecom-minister/articleshow/44846265.cms

Types of Bank Fraud

Fraud is an escalating threat for banks. Advancements in technologies and customer preference changes have opened up new avenues of banking for modern clients. Be that as it may, these channels of accommodation have likewise increased risk from fraudsters. For example, identity frauds, phishing, card fraud and the like [9].

Identity frauds

Identity is the intentional use of someone else's identity, typically as a routine to gain a financial gain or acquire credit and other profit in the other person's name and probably to the other person's annoyance or loss. The individual whose identity has been implicit may suffer difficult consequences, especially if they are held answerable for the perpetrator's events. Identity theft occurs when someone uses another's identifying information, like their name, identifying number, or credit card number, without their permission, to commit fraud or other crimes.

Phishing

Phishing is the use a person's data like secret word, pin number, name and credit card details for many reasons, by disguising as a truthful entity in electronic communication.

Card Fraud:

Bank fraud happens when criminals take our cards or cheque book and increase access to resources in our bank account. When criminals take our bank cards or cheque book; or they attain our details, allowing them to take money from our bank account or run up credit in our name.

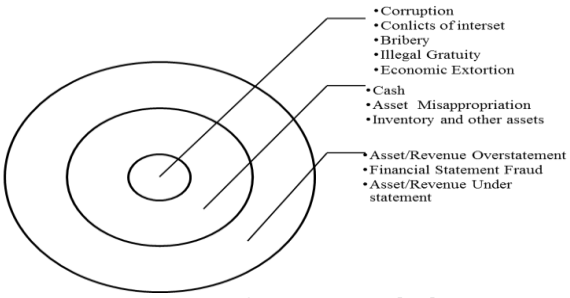

Figure 3: Types of Common Fraud Schemes

Source: *https://www.acfe.com/uploadedFiles/ACFE_Website/Content/rttn/.../fraud-tree.pdf*

For example, 41% of customers worldwide have been sufferers of money related to cyber fraud, have failed to get back even a single cent. Fraudsters have executed fraud indirect channels as well as through the money-saving framework as insiders.

Lack of seriousness of Bank Employees towards Fraud Detection

Bank staff are not considering the trouble of frauds very critically and therefore not even conscious of the estimated amount vanished due to fraud. Bank employees give more importance to the loans, advance, deposits, and they don't take seriously the problem of fraud, which causes a continuous loss for the bank. The awareness level of bank staffs is low. The responsibility level is very low among the clerks and officers when compared to managers. A small error in the automated system can cause huge loss to the bank.

Usage of Analytics to Fight against Fraud

A large portion of bank frauds varies low esteem and large in nature. Therefore they show a superb open door for the investigation to identify the technique and prescribe preventive action [11]. Many of the methods utilized to identify cheats require perceiving indistinguishable/rehashing design matches of individuals, places, frameworks, and occasions.

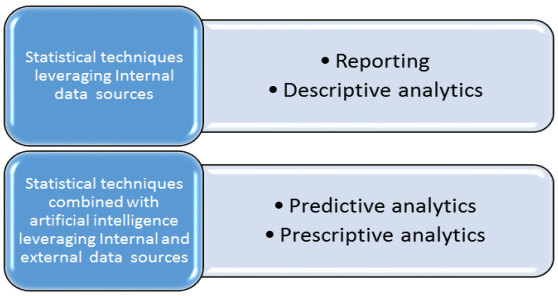

Figure 4: Range of fraud analytics in the Banking sectors

Several methods adopted for bank fraud recognition, allowing a wide range of solutions as shown in figure 4. Artificial intelligence is also being used to prevent fraud ahead of statistical methods. Bank Statements, Form 16, Voter ID, ITR, Compensation Slips, Skillet Card are the most significant ways to identify fraud. With the advent of technology, payment via networks are increased which resulted in increased cash loss. Therefore, it is necessary to develop an efficient tool to detect and prevent fraud. Customers losing their trust in the fraudulent bank sector makes it harder to obtain new clients. Merchant chargebacks and supplementary fees. Regular changes have increased the financial impact of fraud.

Proper use of analytics to prevent fraud can aid to increase profitability in cards, business, decrease payouts, legal hassles, and most significantly improve client satisfaction. Analytics help to improve the capability of existing fraud experts to focus on

real threats more proficiently and effectively [12]. Automated alerts can also be sent to the customers instantly. Beyond finding, predicting, controlling fraud is the main value that analytics brings to the table. Advanced analytics makes it easy in recognizing patterns, of fake transactions, and propose effective protective actions to save the customers money.

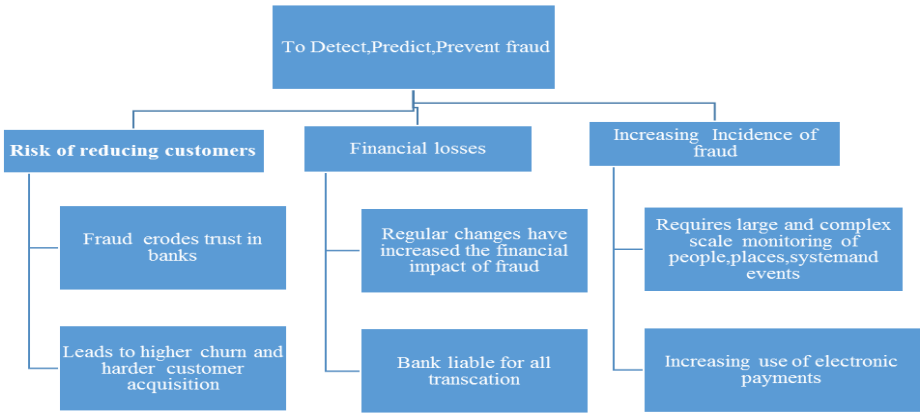

Figure 5: To Detect, Predict and Prevent Banking Frauds

Source: www.statsoft.com/textbook/fraud-detection

Fraud Analytics in Banking

Initiatives to extend predictive and prescriptive analytics based on pattern recognition, are normally affected by the most important operational challenges such as:

- **Balancing priorities:** The triad of the competitive offerings, customer hassle and security pull in different instructions – competitive forces damage banks' abilities to do extra work on fraud prevention. Banks have to walk the tightrope between the three forces.
- **Resource Constraints:** Engines and multiple algorithms outcome are combined to predict fraudulent behaviour, giving a major computing dare to banks. Developing a method for detecting fake alarms also increases computational cost.
- **Staying ahead of fraudsters:** Fraud analytics model needs stable alteration and improvement. Once a fraud method is accredited, the model hastily needs to learn that in sequence, and start looking for the next to flee, that a probable fraudster may consume. Since the entire struggle hinges on being able to avoid the problem of fraud, the stress is always on the banks to be ahead of fraudsters [13].

Techniques to Effectively Operationalize Fraud Investigation

Consistently Refresh and Refine Models

Banks are progressively depending on outside data to foresee frauds, depends on patterns affecting their associates, and the more extensive industry. The models should be kept refreshed with the most recent outer information, on the other hand, they additionally should be persistently enhanced to continue tolerating more current sorts of information. These help the models reduce obstructions to their valuable life [14].

Outline Self-Learning Calculations

Models that can gain from the positive IDs that they make and henceforth, advance and strengthen their working diminishes false cautions and help banks remain out of the clutches of fraudsters. Additionally, allowing the sharing of consequences between calculation helps in the triangulation of results.

World Wide Information Sharing

Specialty units inside banks are today working together more between themselves, and ensuring that exercises learned in one topography for the prevention of fraud are used in different topographies.

Pooling Assets to Battle Fraud

Banks are beginning to understand the power of cooperating to battle frauds more effectively [15]. Building singular models is a luxurious and monotonous process. The arrangement is for banks to move to organize based model, where fraud identification techniques from various banks cooperate for the gathering and help to accomplish broader and good outcomes while minimizing cost.

CONCLUSION

Several organizations experienced bank fraud to some extend. It is a very difficult task. The essential thing to note is that managing fraud can be productive, and groundbreaking, and can position an association in an influential position inside its industry or business section [16]. Solid, successful, and well-run associations exist in light of the fact that the administration tends to determine a path to foresee issues before they happen and to make a move to keep away from undesired consequences. It ought to be perceived that the elements of any association require a continuous reassessment of fraud exposures and reactions in light of the changing conditions the association experiences. Particularly given the stubborn pace of administrative change inside the money-saving area, these stricter administrative prerequisites require more consideration from the administration, while influencing the benefit of various lines of business, and expanding expenses of consistency. Banks, therefore, should consider how their business models will be affected by current and potential future new requirements, and whether their risk management programs have the capacity to answer flexibly to the ongoing process of regulatory change. Last but not the least, effective customer education and communications programs helping customers recognize how to prevent fraud, and also helping them to understand their own responsibilities should run as one with refined digital safety efforts. Only by working in association with their clients can monetary organizations grow really successful in fraud prevention endeavors.

REFERENCES

1. Abdul Rasheed, A., Babaita, I.S. and Yinusa, M.A., 2012. Fraud and its implications for bank performance in Nigeria. *International Journal of Asian Social Science*, *2*(4), pp.382-387.
2. Abu-Shanab, E. and Matalqa, S., 2015. Security and Fraud Issues of E-banking. *Int. J. Comput. Netw. Appl*, *2*, pp.179-187.

3. Anthala, H.R., 2018. Banking system in India a legal study with special reference to fraud and forgery in public sector banks in Ambala city Haryana.
4. Bhasin, M., 2007. Mitigating cyber threats to banking industry. *The Chartered Accountant*, *50*(10), pp.1618-1624.
5. Bhasin, M.L., 2015. An empirical study of frauds in the banks.
6. Bhasin, M.L., 2015. Menace of frauds in the Indian banking industry: An empirical study.
7. Bhasin, M.L., 2016. Challenge of mitigating bank frauds by judicious mix of technology: Experience of a developing country. *Economics, Management and Sustainability*, *1*(1), pp.23-41.
8. Bhasin, M.L., 2016. Integration of Technology to Combat Bank Frauds: Experience of a Developing Country. *Wulfenia Journal*, *23*(2), pp.201-233.
9. Bhasin, M.L., 2016. The Fight against Bank Frauds: Current Scenario and Future Challenges. *Ciencia e Tecnica Vitivinicola Journal*, *31*(2), pp.56-85.
10. Morgado, M., Rolo, S., MacEdo, A.F., Castelo-Branco, M.Association of statin therapy with blood pressure control in hypertensive hypercholesterolemic outpatients in clinical practice(2011) Journal of Cardiovascular Disease Research, 2 (1), pp. 44-49.
    DOI: 10.4103/0975-3583.78596
11. Bignell, K.B., 2006, August. Authentication in an internet banking environment; towards developing a strategy for fraud detection. In *International Conference on Internet Surveillance and Protection (ICISP'06)* (pp. 23-23). IEEE.
12. Carr, J., Mathewson, F. and Quigley, N., 1995. Stability in the absence of deposit insurance: The Canadian banking system, 1890-1966. *Journal of Money, Credit and Banking*, *27*(4), pp.1137-1158.
13. Chan, P.K., Fan, W., Prodromidis, A.L. and Stolfo, S.J., 1999. Distributed data mining in credit card fraud detection. *IEEE Intelligent systems*, (6), pp.67-74.
14. Green, B.P. and Reinstein, A., 2004. Banking industry financial statement fraud and the effects of regulation enforcement and increased public scrutiny. *Research in Accounting Regulation*, *17*, pp.87-106.
15. Gupta, P.K., 2008. Internet banking in India–Consumer concerns and bank strategies.
16. Hoffmann, A.O. and Birnbrich, C., 2012. The impact of fraud prevention on bank-customer relationships: An empirical investigation in retail banking. *International journal of bank marketing*, *30*(5), pp.390-407.
17. Hormozi, A.M. and Giles, S., 2004. Data mining: A competitive weapon for banking and retail industries. *Information systems management*, *21*(2), pp.62-71.
18. Jeyanthi, P.M. (2018). Industry 4. O: The combination of the Internet of Things (IoT) and the Internet of People (IoP). *Journal of Contemporary Research in Management*, *13*(4).
19. Kaleem, A. and Ahmad, S., 1970. Bankers perceptions of electronic banking in Pakistan. *The Journal of Internet Banking and Commerce*, *13*(1), pp.1-16.
20. Khanna, A. and Arora, B., 2009. A study to investigate the reasons for bank frauds and the implementation of preventive security controls in Indian banking industry. *International Journal of Business Science & Applied Management (IJBSAM)*, *4*(3), pp.1-21.
21. Kundu, S. and Rao, N., 2014. Reasons of Banking Fraud–A Case of Indian Public Sector Banks. *International Journal of Information Systems Management Research and Development (IJISMRD)*, *4*(01), pp.11-24.
22. Pan, S., 2015. An overview of Indian banking industry. *International Journal of Management and Social Science Research*, *4*(5), pp.67-71.
23. Pani, L.K., Swain, S. and Swain, S., 2014. FDI in Indian banks and foreign banks in India; study of the recent changes and the implications. *International Journal of Managment, IT and Engineering*, *4*(3), pp.247-253.
24. Prem, M.J., & Karnan, M. (2013). Business intelligence: optimization techniques for decision making. *International Journal of Engineering*, *2*(8), 1081-1092.
25. Prem, M.J., & Karnan, M. (2014). Business Intelligence–Hybrid Metaheuristics Techniques. *International Journal of Business Intelligence Research (IJBIR)*, *5*(1), 64-70.
26. Ramana, S.V. and Krishna, S.G., 2017. A study on impact of fraud in Indian banking sector (With special reference on retail banking products). *International Journal of Academic Research and Development*, *2*(6), pp.544-547.
27. Singh, C., Pattanayak, D., Dixit, D., Antony, K., Agarwala, M., Kant, R., Mukunda, S., Nayak, S., Makked, S., Singh, T. and Mathur, V., 2016. Frauds in the Indian Banking Industry. *IIM Bangalore Research Paper*, (505).
28. Yego, J.K., 2016. *The Impact of Fraud in the Banking Industry: A Case of Standard Chartered Bank* (Doctoral dissertation, United States International University-Africa).
29. Tamizharasi S, Rathi V, Rathi JC. "Floating Drug Delivery System." *Systematic Reviews in Pharmacy* 2.1 (2011), 19-29. Print. doi:10.4103/0975-8453.83435