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Evaluating the Significance of Forensic Accounting in Fraud Detection in the Indian Banking Sector: A Systematic Literature Review

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Abstract

Purpose: The purpose of this paper is to examine the significance of forensic accounting in fraud detection and investigating the fraudulent practices in the Indian Banking sector

Design/Methodology/Approach: This paper review studies conducted on forensic accounting in Indian banking sector to explore the suitability of the same in detection of the occurrences of fraud and investigation of fraudulent practices in the Indian Banking Sector.

Findings: The need to identify and stop financial fraud has never been greater. Even though regulatory agencies like SEBI and RBI attempted to cut down on fraud, their results were unfavourable. Fraudsters nowadays are sophisticated and technologically adept and use novel techniques to commit their crimes. Furthermore, the study highlights Fraud in the Indian Banking Industry. Lastly, the study highlights the Role of Big Data in Influence Practitioners to Use Forensic Accounting for Fraud.

Research limitation/implication: Corporate leaders are ready to avoid committing financial fraud despite pressure from investors, government securities regulators, and exogenous market swings, according to the study's key premise that fraud may be reduced by proactive and intentional action by auditors.

Theoretical implication: Forensic accounting requires knowledge of large data, and should be included in courses for both undergraduate and graduate students.

Practical implication: Forensic accounting is a viable method for exposing bank fraud in India, but more focus should be given to fraud instances where forensic accountants haven't paid attention.

Orginality/value: From published literature, it is evident that there is dearth of studies conducted on forensic accounting and detection of frauds in the Indian Banking Sector. The review paper is a holistic study that focuses on forensic accounting, its suitability in uncovering frauds in Indian Banking sector.

Keywords: Bank, Frauds, forensic accounting, banking sector, Accounting Professionals, Detection and Prevention
Type: Literature review

1. Introduction

To keep the economy humming along, credit must be created and made available. The health of the economy requires a dependable and open financial system. Banks are often discovered to be working hand in glove with those who commit fraud, which hurts the economy and the financial stability of the country. The money in deposit accounts is at risk, and the whole financial system loses liquidity when a bank fails (Abdulrahman, 2020). In recent years, India's financial sector has been thrown into chaos due to several bank failures and frauds. Dishonesty at financial organizations including "Punjab National Bank, Punjab and Maharashtra Cooperative Bank, Yes Bank, ICICI Bank, Infrastructure Leasing, and Financial Services (Non-Banking Finance Company), and Dewan Housing Finance Company" sent shockwaves across the financial sector (DHFL) (Lakshmi, 2016). In the aftermath of several frauds and disasters, the ability of auditors and accountants to spot "cooked books" and dubious financials at big banks and financial institutions has come under increased scrutiny. More than ever, it is important to use forensic accounting to look for signs of fraud and figure out who could be behind it. Forensic accountants are accountants that specialize in

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using their knowledge of accounting, auditing, and investigation in legal settings, such as in courtrooms, during discussions, and to mediate disputes (Mangala, 2015).

A "forensic accountant" or "forensic auditor" has a very distinct set of abilities from those of a "regular" accountant or "regular" auditor whose main job is to evaluate the yearly accounts. Money from banks has recently been moved and siphoned off to the fictional accounts of affiliated groups, as shown in the cases of DHFL and Yes bank (Ademola, 2017). As the result, a substantial sum of money is lost, which has severe consequences for the economy. Fraud, in the form of corruption, asset theft, or fake financial reporting, continues to damage the financial system despite ongoing efforts to stamp it out. So that they can prevent "embezzlement, money laundering, and round-tripping" from tax haven nations, banks should seek the advice of "forensic accountants" when dealing with connected groups of businesses (Bhasin, 2015). In 2001, the Reserve Bank of India (RBI) formed the NL Mitra committee, which in 2008 granted formal status to the India Forensic research foundation. The prevalence of such scams has led to the fast rise of the Serious Fraud investigation officer role. India now has many anti-fraud and anti-corruption bodies, including the Central Vigilance Commission, the Economic Offenses Wing of the Central Bureau of Investigation, and the Foreign Exchange Management Act (Singleton, 2010).

A common thread connecting the many bank frauds over the previous several years is the participation of the banks' promoters, managers, and chief executive officers in some way with the perpetrators of the scam. Investors entrust banks with their funds, and the banks in turn lend money to improve communities' physical facilities (Yadav, 2013). The financial system suffers when banks declare bankruptcy. The economic system will suffer as a result of this. Nonperforming assets (NPAs) are on the rise, and institutions like ICICI Bank and Yes Bank are on the brink of merging as a result. NPAs are mostly the result of fraudulent actions by banks, such as making loans to subprime borrowers in return for monetary and nonmonetary incentives. According to data provided by India's Minister of State for Finance, internet theft and ATM fraud cost Indian financial institutions Rs 110 crore in the preceding fiscal year, 2018-2019 (Ehioghiren, 2016).

The necessity for forensic accountants has been bolstered by the sharp rise in computer and internet theft (cybercrime), the ineffectiveness of regulatory bodies in preventing security frauds, and the collapse of several cooperative banks. "what impact fingerprints had in the nineteenth century, DNA had in the twentieth century, similar impact Forensic accounting has in the twenty-first century," said UK Chancellor of the Exchequer and ex-Prime Minister Gordon Brown, referring to the use of forensic accounting in the war on terrorism (Mangala, 2017).

2. Objectives of the Study

The main aim of the study is to evaluate the significance of forensic accounting in fraud detection and investigate the fraudulent practices in the Indian Banking sector. The study also focuses on:

- To examine forensic Accounting concerning a New Paradigm For Niche Consulting
- To focus on the suitability of forensic accounting in uncovering bank frauds in India
- To analyse frauds in the Indian Banking Industry
- To examine the role Of Big Data in Influence Practitioners to Use Forensic Accounting for Fraud Detection.

3. Research Methodology

The notion of this research design is best characterised as a review paper (Petticrew, M. and Roberts, H. (2008). The major goal of this essay is to explain the importance of forensic accounting in identifying fraud in the Indian banking industry using relevant literature. This study has gone through two steps in its search for forensic accounting papers in accordance with its goal. The first phase entails searching for keywords that include [forensic] and [accounting]; and [forensic accounting and fraud and Indian Banking Sector]. To find pertinent studies, the following databases were searched: Web of Science, Elsevier, Emerald, Scopus, Springer, J-STOR and SAGE Journals are some examples of reliable journals.

A study of forensic accounting journals, special issues, and periodicals that occasionally publish forensic accounting research is also included in this initial stage. The second stage includes a snowball search for the references of all the articles that were found in the previous step. Only English-language articles could be found through the search. The chosen pieces were published during a 15-year period, with the majority appearing in recent decades. The relevant studies were located through the search and rigorously examined. Studies that addressed the forensic accounting profession and frauds in the Indian banking sector were chosen for the review.

4. Literature Review

4.1 Forensic Accounting: A New Paradigm For Niche Consulting

According to Bhasin, (2007), many people believed that it was the job of an accountant to look for signs of fraud or other forms of white-collar crime. There was an expectation that regular audits by both internal and external auditors would help prevent fraud. Shah, (2014) stated that auditors can only verify that a company's books are in line with GAAP, auditing standards, and internal regulations; this is something we know as accountants. That is why there is a whole new branch of accounting dedicated to uncovering fraudulent activities inside organizations. Forensic accounting describes this branch of the profession.

Okpako, (2013) analyzed that Sherlock Holmes is universally regarded as the pioneering forensic accountant. Some figures from India's past, though, deserve credit for their contributions. It was Kautilya, in his ancient Indian treatise Arthashastra, who originally mentioned the forty techniques of embezzlement. It was he who first publicly acknowledged the necessity for forensic accountants in the field of economics. Alabdullah, (2014) examined that in the same way, Birbal served as King Akbar's Scholar. He solved crimes using a bag of tricks. Some of his anecdotes provide a glimpse into the Litmus test of inquiry for a fraud examiner.

According to Ocansey, (2017) engagements resulting from disputes or litigation, whether real or potential, are the focus of forensic accounting. In most cases, forensic accountants must provide work that is "forensic," which implies "suitable for use in Court." Joseph, (2016) analyzed that evidence collecting and the deployment of various methodologies, frequently designed specifically for the needs of the engagement, are hallmarks of a forensic investigation. When a case goes to trial, forensic accountants are typically called upon to testify as experts.

According to Okoye, (2013) in addition to the huge international accounting companies, forensic accounting services may be found in many of the smaller regional businesses and independent accounting practices insurance claims, personal injury claims, fraud detection, construction, and royalty audits are just some of the areas that forensic accountants might specialize in. Dianati Deilami, (2018) examined that according to Accounting Today, more than 40% of the top 100 American accounting firms are increasing their forensic and fraud services. Akinbowale, (2021) analyzed that if these numbers are any indication of the situation in India, forensic accounting in India will soon account for a significant portion of CA companies' overall income. In sum, given the present environment of a thriving company and escalating cases of frauds and litigations, these services are in high demand and are being provided at a premium.

According to Bhasin, (2013) employment possibilities in the field of forensic accounting are expanding rapidly. American forensic accountants have found plenty of employment since the fall of Enron and the World Trade Center. But the establishment of the Serious Fraud Investigation Office Behel, (2021) stated that (SFIO) in India represents a watershed moment for the field of forensic accounting in that country. No of our level of awareness, the rising prevalence of cybercrime, the inability of regulators to keep up with security scams, and the collapse of a string of cooperative banks all speak to the need for forensic accounting. Bhide, (2012) examined that amidst the increasing incidence of fraud in India, forensic accountants have become more important. Services such as forensic practice will be in high demand due to the proliferation of government bodies involved in regulation and administration. According to Henry, (2017) changes in auditing and assurance requirements, as well as in Indian accounting practices, provide more evidence of this trend. If the written tests and practical industry training are updated to better represent the "new knowledge base and skill set" needed by the accounting profession in the current period, then a shift in the curriculum is possible. As a result, "forensic accounting and auditing" should be included as soon as feasible in the curriculum of the ICAI professional examination.

Dubey, (2014) stated that sadly, forensic accounting remains largely untapped in India. In rare instances, Chartered Accountants (CAs) may be enlisted to assist with the aforementioned tasks. Forensic accountants are in high demand in the West at the moment, with potential clients including law enforcement agencies, financial institutions, government agencies, insurance firms, auditing firms, and business courts and regulators. To succeed in the new discipline of forensic accounting and auditing, accounting professionals need to adopt a certain attitude.

Wijerathna, (2020) examined that due to the evolving demands of businesses, the very meaning of forensic accounting is shifting. "the application of financial skills, and an investigative mentality to unresolved issues, conducted within the context of rules of evidence," Bologna and Lindquist said in their definition of forensic accounting. Azadzadeh, (2014) stated that to be effective in this new field, one must be well-versed in finance, grasp the nature of fraud, and be familiar with the realities of doing business and the rules governing their operation. This means that the forensic account has to be well-versed in more than just financial accounting; they also need to know the law, the specific needs of their organization, how to conduct thorough investigations, and how to get along with people.

Chaturvedi, (2015) stated that the definition of forensic accounting is "the application of accounting principles, theories, and discipline to facts or hypotheses relevant to a legal dispute," it is safe to assume that all aspects of accounting are included in this field. While analyzing, investigating, inquiring, testing, and examining problems in civil law, criminal law, and jurisprudence, it is helpful to have a firm grasp of financial concerns. To back up claims in court, forensic accountants do audits, (current year) accounting, and investigation techniques, as defined by Abid. Both litigation services, which acknowledge the accountant's function as an expert adviser, and investigative services, which draw on the accountant's skills and may need proof in court, form the basis of forensic accounting. Experts in forensic accounting are often called upon to aid court proceedings by discussing the facts and patterns of theft or misappropriation of the company or individual assets, drawing on their training and expertise in the field. Also, businesses often hire forensic accountants to go over their books and provide advice on how to better avoid theft and fraud by implementing a more robust system of internal controls and checks. Forensic accountants bring more to the table than just numbers because of their training and expertise.

Table 1.
Chronological presentation of papers on Forensic Accounting

S.N	Author name	Finding
1	Akinbowale (2021)	The study shows that forensic accounting and management control can combat cyber fraud. This study suggests that banks should regulate fraud risk management to maintain reputation and regulatory compliance. The banking sector should guarantee that its management control systems and forensic accounting methods for cyber fraud are compatible.
2	Behel(2021)	Forensic accounting is not recognized as a profession due to a lack of regulation and accreditation. However, the activity covers all aspects of fraud risk management and related offenses. It is made by specialists with investigative profiles and a variety of information, skills, and abilities for services including investigations, disputes, expert testimony, and fraud prevention. SFIO in India was a turning point for the discipline of forensic accounting there.
3	Wijerathna (2020)	It is crucial to include forensic accounting in undergraduate and graduate curricula. Furthermore, conventional accounting knowledge alone does not make for a perfect forensic accountant. A forensic accountant should be knowledgeable across many different fields. Auditing, accounting, statistics, information technology, legal regulations, and human skills are some of these cross-disciplinary fields.
4	Deilami(2018)	The need for forensic accounting expertise was brought on by the rise in financial and white collar corruption. According to Accounting Today magazine, more than 40% of the top 100 accounting firms in the US are expanding their offerings to include forensic and fraud services.

5	Henry (2017)	The report concludes that forensic accounting services enable banking firms to explain fraud detection, prevention, and control. Forensic accounting periodically evaluates fundamental banking processes. Increase in hiring of forensic accounting specialists appears to have created an effective system to monitor bank fraudsters. Forensic accounting services have reduced banking fraud.
6	Ocansey(2017)	All institutions —anti-corruption authorities and businesses—should create forensic accounting divisions to improve internal controls and ensure thorough investigations to prevent, deter, and discover financial and economic crimes. The Institute of Chartered Accountants and National Accreditation Board should require universities and professional institutions to offer forensic accounting courses to ensure training and awareness. Forensic accounting handles disputes and lawsuits, regardless of legitimacy.
7	Joseph (2016)	In the banking industry, forensic accounting is a powerful tool for fraud detection and prevention. Therefore, it is advised that, in order to lower the rate of financial crime in the banking sector, there should be increased involvement of forensic accountants in fraud detection. To improve the caliber of accountants graduating from colleges, forensic accounting courses should be offered by institutions.
8	Chaturvedi (2015)	To undertake an assessment of a company's financial accounts, forensic accounting combines accounting, auditing, and investigative abilities. It appears that forensic accounting offers the necessary remedy for the issue of fraud and financial mismanagement in enterprises.
9	Azadzadeh (2014)	Forensic accounting's development is strongly tied to legal, economic, and social factors, and the economy and society's growth and transformation will drive it. However, the constraints of law, accounting, and auditing would limit how much they can satisfy public demand, and the availability of forensic accounting in practice is st insufficient, indicating that forensic accounting needs improvement.
10	Alabdullah(2014)	The study's main findings demonstrated that forensic accounting approaches improve control and auditing agencies' financial misconduct detection. The study suggested adding theoretical and practical forensic accounting classes to university accounting departments' curricula at both the preliminary and advanced levels.
11	Dubey (2014)	The role of official justice and judiciary experts in handling claims and financial disputes cannot be disputed, but the training and employment of forensic accountants in the legal system as a separate profession may help observe justice in economic crimes, financial claims, and the protection of people's rights.
12	Shah (2014)	The researcher has sought to elucidate the relevance, necessity, technique of forensic accounting in India. Forensic accounting uses data, knowledge, and accounting system setup to detect and prevent financial wrongdoing. It also deters and warns miscreants that they may be detected and punished.
13	Okoye (2013)	The study highlights the potential to increase awareness of the value of engaging a forensic accountant and help auditors decide what to do when risk variables suggest a higher probability of management fraud. Involving forensic accountants in the risk assessment process yields better results than consulting them with summary risk assessments and seeking opinion.
14	Okpako(2013)	Economic and financial crime can be combated through forensic accounting. Regular audits can't find fraud, but forensic accountants can. Legal talents allow them to penetrate an organization, read the books,find proof, and testify. Forensic accounting identifies and eliminates misconduct, boosting firms' reputations. Fraud should be avoided by businesses. Bankers should be honest, objective, fair, and responsible, and governments and regulators should impose forensic requirements.
15	Bhasin (2013)	The Forensic accountant's position can progressively develop into a crucial element in the Corporate governance system by assisting businesses in identifying and preventing fraud, creating a "positive" work atmosphere, establishing "effective" channels of communication, and being attentive as a corporate "watchdog." We can only hope that FAs will be able to enhance CG scenarios worldwide thanks to their particular knowledge, training, and talents.
16	Bhide (2012)	Forensic accounting examines a company's financial accounts using accounting, auditing, and investigation abilities. Forensic accountants understand business realities beyond numbers.
17	Bhasin (2007)	In fact, a forensic accountant will use their accounting, auditing, and investigative chops to look into a company's books. Successful entry-level forensic accountants need a broad base of knowledge (within the subjects mentioned above). Due to the novelty of the field of forensic accounting, efforts should be made to establish uniform terminology through the dissemination of working definitions and the sharing of institutional experiences. Indeed, forensic accounting has great potential as a distinct "niche" in the consulting industry.

4.2 Suitability of forensic accounting in uncovering bank frauds in India

Gangwani, (2020) defines forensic accounting as the application of financial competence and an inquisitive mind to all pending situations that are envisioned within the framework of trials and discusses studies relating to the definition and description of forensic accounting. According to the author, forensic accounting is focused on the detection and prevention of various types of financial fraud and irregularities. He said that it was a kind of reporting inspection well suited to the public deliberation, debate, and settlement of disputes that characterize judicial procedures. It is commonly understood that forensic accounting implies a scientific method of conclusion because of its focus on providing a legal assessment to provide the greatest degree of confidence to its clients.

According to Dhar, (2010) expertise, integrity, and decency were identified as crucial qualities for a successful forensic accountant in a review of the qualifications needed for the profession. Forensic accountants need superior knowledge and technical chops. The author covered all the bases in terms of the abilities required of a forensic accountant, including the capacity to manage connections, internal control, and communication, as well as accounting knowledge, auditing competence, and familiarity with taxes, finance, and law.

Bhasin, (2007) stated that this decade has witnessed a growth in fraudulent operations throughout the globe, posing challenges for the financial industry everywhere. The author of a study on the implementation of forensic accounting in the banking sector shares his thoughts on the relevance of bank fraud concerns and the reluctance/incapacity of bank staff to combat such crimes. A survey was used to collect data from 253 bank workers for the research. The research found that a lack of knowledge about bank fraud and reluctance toward RBI procedures were major factors in explaining why bank workers did not highlight the growing issue of fraud.

According to Moid, (2016), recent trends in the banking sector and financial services point to an increase in instances of fraud involving the misappropriation of the author's assets. Lack of forensic auditing resources and technological know-how, as well as involvement by concerned management, have contributed to historically high instances of banking fraud. Lohana, (2013) stated that places special emphasis on the systems in place at Chandigarh banks to deal with fraud of different types and the technical promptness with which they handle risks and meet compliance criteria. The study found that the rise in banking frauds can be attributed to several factors, including a lack of managerial attention, complex business situations, and insufficient methods for identifying potential lapses. Lakshmi, (2016) examined that these factors, however, are all amenable to correction through the provision of appropriate training in intelligence gathering and fraud evaluation. While the author acknowledged that forensic accounting's "proactive approach in fraud identification" is a benefit, the "costly and long complex investigation" is negative, making it a significant problem for any business that employs it. The research shows that the usage of forensic accountants by businesses is fraught with both benefits and drawbacks.

Yadav, (2013) stated that "the rampant practice of assets misappropriation," which can take seven different forms (including "stealing," "cash robbery," "cheque tampering," "register compensation," "invoicing," "payroll," "expense reimbursement," and "inventory"), has caused the failure of many financial institutions. Two hundred managers and staff from the three largest Indian banks were selected using a stratified sample approach for the research. The research found that the following actions would help lessen the possibility of bank fraud or risk by keeping an eye on the financial services sector. According to Prakash, (2013) to determine if there is a correlation between forensic accounting and fraud detection, research tests the assumptions that forensic accountants may successfully detect, investigate, and prevent digital banking crime at Nigerian commercial banks. According to the findings, forensic accounting's enhanced internal monitoring and fraud detection skills might be useful for banks. Another study tested assumptions about the impact of forensic accounting, government rules, and inflation rate on the detection of fraud in the UAE banking system. According to the findings, the discovery of fraud is greatly aided by the use of forensic accounting techniques, government restrictions, and rising inflation rates.

S.no	Author name	Finding
1	Gangwani (2020)	Forensic accounting as the use of financial knowledge and an inquisitive mind to all situations that might come up in a trial. It also talks about studies that have been done to define and explain forensic accounting.
2	Moid (2016)	Theoretical examination of the forensic accountant is watchdog, who may keep an eye on the businesses' financial operations in order to reduce the likelihood of financial fraud in the future.
3	Lakshmi(2016)	To find any fraudulent activities, forensic accountants need to be skilled at following and analyzing digitalized financial information. In the future, the function of the forensic accountant will be crucial to corporate/public governance since it will ensure the fairness and openness of accounting systems and help avoid corporate crime.
4	Yadav (2013)	Forensic accounting is a subset of the larger accounting field. It is the application of expert accounting knowledge in legal situations involving potential or on going civil or criminal litigation, including, but not limited to, the application of generally recognized accounting and auditing principles, the estimation of lost earnings, income, assets, or damages, the assessment of internal controls, fraud, and any other situation requiring accounting knowledge.
5	Prakash (2013)	Research tests the idea that forensic accountants can find, investigate, and stop digital banking crime at Nigerian commercial banks. This is done to see if there is a link between forensic accounting and fraud detection.
6	Lohana (2013)	Focuses on the systems that Chandigarh banks have in place to deal with different kinds of fraud, as well as the speed with which they handle risks and meet compliance criteria.
7	Dhar (2010)	A review of the qualifications needed for the job found that a successful forensic accountant needs to have knowledge, integrity, and good manners.
8	Bhasin (2007)	This decade has seen an increase in fraud around the world, which has caused problems for the financial industry everywhere.

Table 2.
Papers on significance of Forensic accounting

4.3Frauds in the Indian Banking Industry

According to Srivastava, (2015), there have been several reports of financial fraud in India in recent years. Even though bank fraud in India is often seen as a necessary evil, the dramatic growth in banking fraud after liberalization has given authorities like the Reserve Bank of India reason for considerable worry (RBI). According to the Reserve Bank of India (RBI), "A deliberate act of omission or commission by any person, carried out in the course of a banking transaction or the books of accounts maintained manually or under computer system in banks, resulting into wrongful gain to any person for a temporary period or otherwise, with or without any monetary loss to the bank," is considered fraud.

Khanna, (2009) stated that "public sector banks (PSBs) in India have lost a total of Rs. 22,743 crores due to financial fraud during the last three years". The RBI has taken many steps to reduce the incidence of financial fraud, but although the total amount stolen has decreased, it has climbed over the last several years. The apparent robberies from Syndicate Bank and Indian Bank suggest not just low-level employees but possibly management was complicit. Murthy, (2022) analyzed that this casts a shadow on the efficacy of corporate governance at the very top of the world's most prestigious financial institutions. Additionally, Roy, (2022) examined that non-performing assets (NPAs) have been on the rise, which has had a catastrophic impact on the profitability of PSBs. Risky nonperforming assets (NPAs) have been linked to several factors, including the global and local recession and fraud. How much a nation produces and consumes is influenced by the health of its banking and financial sector. According to Mayur, (2017) it is an unmistakable reflection of the level of life in the country. Since NPAs are a reflection of the financial difficulty of borrowers' customers or inefficiencies in transmission processes, their presence in the banking system is cause for concern. The authors were primarily motivated to conduct this extensive research on fraud in the Indian banking sector by considering the negative effects of fraud on the Indian economy from a variety of perspectives.

According to Mishra, (2013) following the Great Depression of the 1930s in the United States, the Glass-Steagall Act (GSA) was passed to separate commercial banking from "risky" investment banking to decrease risks to the financial system and address conflicts of interest in banking. Numerous attempts were made to save GSA, but the program was ultimately rendered ineffective and dissolved in 1999. The author argued, during a conference on humanizing the global economy, for more transparency and accountability in international capital markets. Hassani, (2018) stated that to help find, investigate, and fix major financial risks, the World Bank and the International Monetary Fund (IMF) worked together in the mid-1990s to create the Financial Sector Assessment Program (FSAP). A lot of people now support FSAP when it started back in 1999. Saha, (2016) analyzed that massive bank mergers gave rise to the "too big to fail" concept, which in turn encouraged very high-risk financial targets and precipitated the financial crisis of 2008. The DFA has developed new agencies to monitor for and prevent acts of fraud. As part of Dodd-Frank, the "Volcker Rule" forbade commercial banks from participating in "proprietary trading" for financial gain.

According to Kolte, (2019) following the crisis, the IMF has worked to improve the efficacy of the framework used to evaluate risks and vulnerabilities by promoting increased transparency and information sharing, strengthened supervisory and regulatory bodies, and closer international cooperation in the regulation and supervision of financial institutions. Akelola, (2012) stated that both the scope and frequency of financial monitoring were found to be wanting, particularly in nations with really systemic banking sectors whose collapse may precipitate a financial catastrophe. Studies have shown that a credit boom precedes around one-third of all banking crises, suggesting a link between loose bank loan growth practices and financial instability. The Indian banking sector has been troubled by rising nonperforming loans (NPAs) in recent years, creating a self-perpetuating cycle that threatens its long-term viability. In his talk, Chakrabarty (2013) pointed out that although private and international banks have been blamed for the most number of frauds, public sector banks have contributed the most financially.

Mangala, (2022) examined that RBI (2014b) found that public sector banks were under stress due to poor asset quality and marginal capitalization, and the central bank made several suggestions to alleviate this pressure. Public sector banks should be granted better governance and greater autonomy to boost their competitiveness and access to market funding. After the crisis, it was discovered that laws do not seem to be a hindrance to the operating of banks, contrary to the widely held belief that more restrictions would reduce economic prospects.

Banking Regulation and Development Authority of India (RBI) has categorized several forms of fraud based on the provisions of the Indian criminal law and established reporting procedures for such frauds (2014a and 2015a). According to RBI (2015b), cooperative banks were directed to establish a committee to supervise internal inspection and auditing, plan suitable preventative activities, and then analyze the effectiveness of such efforts. This was done to facilitate the board of directors' oversight of fraud. Providing workers with the tools they need to deal with fraud requires objective policy guidelines and a whistleblower policy. The lack of a strong credit assessment system, inefficient monitoring after loan disbursement, and inadequate recovery methods were all identified by Gandhi (2014) as major impediments to resolving the primary causes of rising NPAs. Gandhi (2015) emphasized the need of understanding one's client, one's staff, and one's partners as foundational concepts for combating fraud. He also emphasized the need for constant monitoring and a thorough evaluation process.

S.no	Author name	Finding
1	Roy (2022)	Non-performing assets (NPAs) have been going up, which has made it impossible for PSBs to make money.
2	Murthy (2022)	Rising of NPAs casts doubt on the effectiveness of corporate governance at thetop of the most prestigious financial institutions in the world.
3	Mangala (2022)	It was found that public sector banks were under pressure because they had low capitalization and bad assets. The central bank made a number of suggestions to help ease this pressure. Better governance and more freedom should be given to public sector banks to make them more competitive and give them better access to market funding.
4	Kumar (2022)	Even though banks are taking much less risk than they used to, there is still reason to worry. This is shown by the sign of bank stability. In the meantime, banks were worried about how good their assets were. The gross nonperforming asset ratio is a measure of systemic credit risk. RBI predicts that it will be 5.4% by September 2016 and 5.2% by March 2017.
5	Kolte (2019)	After the financial and banking crisis, the IMF has worked to build the framework which can be used to evaluate risks and vulnerabilities more effectively. This can be done by pushing the system for more transparency and sharing of information, stronger oversight and regulatory bodies, and closer international cooperation in the oversight and regulation of financial institutions.
6	Harma (2019)	Gross nonperforming assets (NPAs) are a measure of systemic credit risk. RBI predicts that they will be about 5.4% in September 2016 and 5.24% in March 2017. (2015c).This indicator has shown how stable a bank is. Because of this, financial institutions were worried about the quality of their assets in the same way.
7	Hassani (2018)	In the mid-1990s, the World Bank and the International Monetary Fund (IMF) worked together to make the Financial Sector Assessment Program. This program helps find, investigate, and fix major financial risks (FSAP).
8	Agrawal (2018)	The retail loan segment's share of total NPAs is still a big one. Credit card loans make up 2.2% of this share, which is third after personal loans and home mortgages.
9	Mayur (2017)	NPAs are a cause for concern since their presence in the banking system is a sign that clients are having financial difficulties or that transmission procedures are inefficient
10	Saha (2016)	Massive bank mergers led to the "too big to fail" idea, which in turn led to very high -risk financial goals and the 2008 financial crisis.
11	Gandhi (2015)	Fraud prevention starts with the idea that you need to know your client, your staff, and your partners. He also stressed how important it is to keep an eye on things and evaluate them carefully.
12	Srivastava (2015)	The necessity for forensic accountants and auditors to develop systems and procedures for recognizing, preventing, and dealing with fraud has intensified as a result of the global collapse brought on by the failures of Enron and WorldCom. Financial crimes and fraud, particularly in developing nations where the problem has become widespread, have a major detrimental impact on the development of human capital and infrastructure in developing economies.
13	Lagazio (2014)	Fraud-related advances, which have made up about 67% of all fraud advances in the last four years, pose a direct threat to the financial health of banks.
14	Chakrabarty (2013)	Public sector banks have given the most money, even though private and international banks have been blamed for the most frauds.
15	Mishra (2013)	After the Great Depression of the 1930s in the United States, the Glass -Steagall Act (GSA) was passed to separate commercial banking from "risky" investment banking. This was done to reduce risks to the financial system and deal with conflicts of interest in banking. There were many attempts to save GSA, but in the end, the program was made useless and ended in 1999.
16	Akelola (2012)	Both the size and frequency of financial monitoring were found to be lacking, especially in countries with much interconnected banking systems whose collapse could cause a financial disaster.
17	Moin (2012)	The Reserve Bank of India has found that there are three main types of bank fraud: those that involve deposits, those that involve advances, and those that involve services.
18	Khanna (2009)	"Public sector banks (PSBs) in India have lost a total of Rs. 22,743 crores due to financial fraud during the last three years (2005-2008)".
19	Gupta (2008)	Frauds with documentary credit (letters of credit) have also been reported, which is very worrying because they could hurt trade. There is a strong link between the growing number of nonperforming loans (NPAs) in public sector banks, the growing number of high -value bank loan defaults, and the suspicion that businesses and high -level bank officials are working together.

Table 3.
Snippets of Research on Financial Fraud in India's Banking System

4.4 Role Of Big Data to Influence Practitioners To Use Forensic Accounting For Fraud Detection

Mittal, (2021) stated that over the last several years, financial institutions have been plagued by an increasing number of instances of financial crime. Stock options scandals, public offering securities manipulations (Hull et al., 2013), the widespread frauds in the mortgage industry that contributed to the major financial crisis of 2007-2008, and the Ponzi decline of CRE valuations are just a few examples. Efiong, (2013) examined that as such, the regulatory bodies pay special attention to the CREL financing sector. One major contrast between

CRELs and other loan types including consumer loans, business, and industrial loans, and residential real estate loans is the kinds of collateral real estate (CRE) that may be used as security for a CREL. Collateral for the loan and principal source of repayment, commercial real estate revenue from rent or sale profits.

According to Gepp, (2018) however, corporate loans do not qualify as CREL, regardless of whether or not they are secured by a mortgage on a piece of real estate, since the source of repayment is the running firm of the borrower, not a financial institution. According to the FDIC, commercial real estate (CRE) loans include "acquisition, development, and construction (ADC) financing and the financing of income-producing real estate" that is leased to third parties. Ozili, (2020) stated that the CREL investment sector is notable for its diversity and multifunctional nature. Despite the worldwide nature of the CREL industry, the author is unaware of a universally accepted definition for this kind of investment. Bassett and Marsh (2017) explain the significance of regulators and banks sharing a common knowledge of CRE to create a reliable data source, for use in locating, for example, CREL concentrations. Accurate data and timely reporting are crucial, as shown by "the global financial crisis of 2008, which was started by a decline in the US real estate market. Six months before Lehman Brothers Holding Inc. filed for bankruptcy, on March 17, 2008, the FDIC published a Financial Institution Letter (2008) warning of a worsening in the CRE market and its potential impact on banks with substantial concentrations of CREL".

Regulatory authorities have a significant effect on the lending practices and risk management of financial institutions. Banks and insurance corporations, two heavily regulated sectors, are also major CREL suppliers. This is why the examination relied heavily on documents from regulatory bodies, especially in the United States and the European Union. According to Sheng, (2017) the United States and Europe are two of the world's most important financial and commercial real estate markets. Science publications from electronic data providers were used to supplement the assessment with regulatory sources.

Kranacher, (2019) stated that all of the regulatory agencies' homepages were evaluated systematically by searching for terms like "commercial real estate lending" and "commercial mortgages." When 33 potential sources were examined, 23 were found to comply with US law. Ten other references are associated with EU law. In cases where data from several regulatory providers within a single nation were found to be similar, only one of the providers was included in the review set. Google Scholar, Science Direct Scopus, Springer, and Core are only some of the electronic databases that yielded 11 relevant results. Moll, (2019) analyzed that there were eleven total sources used, ten of which were published in academic journals and one of which was a white paper written by members of the BoG team. Most of the papers were published between 2003 and 2020. Of the initial set of 44 recognized sources, ten were omitted because they added nothing to the conversation or were unrelated to CREL. This analysis, then, relied on a total of 34 files.

Omondi, (2013) stated that to classify the CREL asset class, people used a coding strategy based on Grounded Theory (Schreier, 2012) to recognize and organize previously unnoticed facets. Based on the work of Kuckartz, a profile matrix was developed for the encoding procedure (2014). The matrix's horizontal lines reflect the study's primary themes and provide an overview of the subjects under investigation. Lawal, (2021) stated that during the second round of record screening, people paid close attention to ensure that all necessary subcomponents were included. Numerous columns of the string represented the various literary collections. The profile matrix's layout provides a synoptic view of the extracted themes across profiles (Kuckartz, 2014). A rating of the sources is part of the data analysis, and it relates to the standards proposed by Okoli and Schabram (2010). Favaretto, (2020) examined that there were four categories created for the data sets. Class 1 materials include laws and regulations, whereas class 2 materials include supervisory sources. At the third level are the most prestigious academic periodicals. The additional data was classified as level 4 data. According to Akhgar, (2015) twenty-three of the sources, or almost two-thirds of the records, fell into the category level 1 and 2 (legal sources), ten records were classified as level 3 (good quality), and one source fell into the category level 4 (very poor quality) (other).

S.no	Author name	Finding
1	Mittal (2021)	Instead of dividing the world by the type of data, big data separates it by intent and timing. In the "old world," businesses routinely "manage out of the rear-view mirror," meaning that by the time transactions are recorded, it is too late to do anything about them. Instead, in the "new world," businesses can use new "signal" data to predict what will happen and take action to improve the situation. Big Data has the capacity to forecast future events in addition to analyzing the patterns of past occurrences.
2	Lawal (2021)	The need for auditors with Big Data expertise to make business decisions is growing. The authors show that forensic accounting and big data analytics are becoming more and more popular in both practice and education.
3	Ozili (2020)	Key takeaway is that fraud is complex, and that complexity can have a big impact on how researchers do forensic accounting -based fraud study employing big data and other technological breakthroughs.
4	Favaretto (2020)	One of the most crucial methods for managing large amounts of data is the use of big data; accounting professionals must utilize its advantages in forensic accounting to find fraudulent activities. Big data is a critical enabler and may be used to improve forensic accounting procedures and applications.
5	Moll (2019)	As there are unusual examples of merging the many pieces of information and turning them into trustworthy decision factors in a given situation, big data techniques become beneficial. Big data technology would thereby benefit the audit profession, audit research, and working audit professionals.
6	Kranacher (2019)	The sufficiency, dependability, and relevance of audit evidence can all be improved by big data. Of course, this immediately affects audit quality, especially forensic audit quality. Big data enables forensic auditors to maximize GPS data and gain more reliable data for delivery verification. Therefore, it makes sense that big data plays a significant role in maximizing the role of forensic audit.
7	Gepp (2018)	Big data can increase the quantity and variety of information that auditors require to find fraud. The analytical process will then be supported, which will affect how well audit results for fraud detection are produced. According to agency theory, big data can help solve the agency problem (fraud), which frequently arises in many sorts of agencies, particularly in governmental entities. So it is clear that big data can really be a useful and successful instrument for fraud detection. Big data is indeed effective and efficient for detecting fraud.
8	Sheng (2017)	Those who are devoted to lowering the incidence of fraud cases should invest in big data and train auditors to conduct forensic audits in conjunction with big data (via education and training).
9	Akhgar (2015)	Future public accounting firms and businesses may think about using forensic auditing and big data technology to find fraud. The employment of these technologies and techniques is anticipated to provide a solution for all parties looking for fraud detection techniques that are in fact quite effective and efficient.
10	Omondi(2013)	Evidence gathered utilizing big data solutions can be quite persuasive, but their strength is increased when paired with the analysis of forensic accounting investigators and expert witnesses who can explain their consequences. In many instances, the successful melding of these two very distinct investigative philosophies can determine a fraud investigation's outcome.
11	Efiong (2013)	Since even minute variations can be noticed, analyzed, and highlighted as potential fraud activities, fraud detection in the hands of forensic accountants is an innovative technique to leverage trends to stop and detect suspicious transactions and activities. Big data and mining techniques can assist with data management and fraud detection.

Table 4.
An Overview of How Big Data Affects Forensic Accounting Professionals

5. Findings and Discussions

The foundation of a prosperous nation is its thriving economy. Inevitably, economic growth is a driving force that ensures a country continues to function. Since a country's economy is a crucial part of its overall health, any economic shocks should be kept to a minimum. There have been several banking failures and scams in India in recent years, which have threatened the country's financial stability and eroded investor trust. Many bank failures may be traced back to the diversion and siphoning off of money into high-risk ventures, which eventually hurt depositors and financial institutions. According to the Reserve Bank of India's most recent annual report, bank frauds in the country's 2019 fiscal year totalled a staggering Rs 72,000 crore. Forensic accounting is useful in identifying bank frauds, hence this review paper seeks to learn how academics and professionals see its applicability in this area. The tremendous rise in financial scams and white-collar crimes has brought forensic accounting into the spotlight. But it is a mainly unexplored part of India. The mix of accounting, auditing, and investigation abilities generates the specialism known as forensic accounting. Increasing numbers of insurance firms, banks, police departments, government agencies, and other private and public organizations are hiring forensic accountants, creating a thriving job market.

The banking sector in India has seen tremendous change and growth since the liberalization of the economy in 1991. While the banking industry as a whole receives sufficient oversight and regulation, it nonetheless has its problems with unethical conduct, financial crises, and poor corporate governance. The purpose of this study is to examine issues like banking fraud and rising credit card debt from every angle possible, including via primary data collection (interviews) and secondary data analysis (literature review and case approach). There have been many different types of fraudulent activities in the financial markets in recent years, posing difficulties for specialists and auditors whose job is to ensure accuracy and transparency in the financial sector worldwide. The purpose of this paper is to identify how Indian public practice accountants are using Big Data in the context of fraud and forensics.

a. Theoretical Implications

The results of our review have a number of important significance. A forensic accountant cannot be flawless just by having traditional accounting understanding. Instead, a forensic accountant needs to be knowledgeable in a range of disciplines, including auditing, accounting, statistics, information technology, legal standards, and human skills, among others.The main barriers preventing the application of forensic accounting are ignorance and education. Therefore, it is crucial to include forensic accounting in courses for both undergraduate and graduate students. Big data understanding is essential for forensic accountants; hence forensic accounting courses should include extensive data modules.

b. Practical Implications

Businesses of all sizes and in a wide variety of fields and specialisations have fallen prey to financial fraud and scams. India's banking sector has been plagued by failures and frauds in recent years, threatening the country's economy and destroying investor trust. This review paper looks at how a new paradigm in niche consulting might affect the field of forensic accounting. It also shows that forensic accounting is a viable method for exposing bank fraud in India. The government should think about adding more fraud hotlines, enhancing whistle-blower policies, and establishing a forensic accounting department in order to strengthen the public sector's fraud prevention system.

The majority of earlier studies have focused on forensic accounting's theoretical components. Although this is a healthy trend, more focus should be given to fraud instances where forensic accountants haven't paid as much attention.

Also, more study needs to be done on forensic accounting and auditing in the field of education, and forensic accounting in relation to financial collapse cases. They will primarily aid in the creation of forensic accountants to meet industry demand and assist practitioners and regulators in strengthening their forensic accounting knowledge and decision-making. Furthermore, forensic accounting is employed as a post-mortem approach, that is, after the fraud has already taken place. It should instead be used early or be more actively involved as part of the risk management role.

6. Conclusion and Recommendations

It is clear from analysis of the relevant literature that auditors' negligence and incompetence in identifying fraud is not the main cause of financial crises and financial scams in the business and banking sectors. This is because, in recent years, banks have grown more susceptible to fraudulent shocks such as money or fund siphoning, cybercrime or online theft, and diversion to various fictitious group organizations, all of which damage the banks' image among depositors and result in significant NPAs. Forensic accounting is critical in the battle against financial crime because it helps law enforcement and government accountants to address any gaps in financial reporting. It was found, after an analysis of the study's data, that the following results were consistent with those of other research studies. Seventy-two percent of those who took the survey think that "forensic accounting" is a relatively novel idea in the banking industry.

Forensic accounting has been more well-known in India in recent years due to the frequency of white-collar crimes and the general belief that law enforcement agencies lack the resources to adequately investigate and prosecute such cases. A major international accounting firm thinks there is enough demand for a separate division to focus on "forensic" accounting. All of the major accounting firms, and a growing number of smaller, specialty firms, have established forensic accounting divisions in recent years. To investigate a company's financial accounts, forensic accountants use auditing, accounting, and investigation techniques. Entry-level forensic accountants require a wide range of skills and expertise (within the subjects mentioned above). Given the novelty of forensic accounting as a discipline, practitioners and researchers alike must engage in a round of working definitions and the sharing of professional anecdotes to develop a common vocabulary and frame of reference. Forensic accounting as a distinct "niche" area of consulting has a bright future.

It has been noted that, when comparing the overall number of bank frauds, PSBs do better than PVBs. On the other hand, the overall amount at stake is far more in PSBs than in the private sector. The magnitude of the loans that PSBs make available to their consumers is likely a contributing factor. Due to the high stakes involved and the extended time of CVC's fraud detection process, credit card fraud is the most lucrative kind of financial crime in India. There may be a combination of causes that have led to the widespread nature of financial fraud in India and elsewhere. The widespread occurrence of banking fraud in India and abroad may be attributed to several causes. There is a lack of knowledge among bank staff and clients, a lack of proper tools and technology to identify early warning signs of fraud, a lack of cooperation between various banks in India and overseas, and a loose regulatory framework, among other factors. Many cases of fraud and NPAs are blamed on the lengthy reporting periods required by law and institutional flaws.

The overarching goal of this study was to compare the approaches of organizations with varying levels of CI Maturity to People Excellence, to achieve tangible business benefits. The aim was also to investigate the various perspectives on CIS and its effect on the business. The interview procedure revealed that when executives from various CI Maturity businesses discuss the same aspect, they often have quite different meanings in mind. It begins with a summary of their CI Systems and on to detail various aspects of their People Excellence program. Depending on how far along the CI maturity spectrum a company is, it will have varying levels of People Excellence gaps. Leaders may motivate their teams to accomplish big business outcomes on the CI journey by concentrating on each of these factors separately. These findings suggest that practitioners should consider doing a CI Maturity assessment before developing a Lean RollOut Plan or establishing a Change Management strategy inside their firm.

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