

EFFECTIVENESS OF FORENSIC ACCOUNTING IN THE BANKING SECTOR – ACCOUNTING PROFESSIONAL’S PERCEPTIONS

Mr. Parveez Ulla*
Mrs. N. Manjula**
Mrs. Sowmya. K***

ABSTRACT

Forensic Accounting is a traditional accounting realm, which focuses on examining audits and taxes to identify fraudulent practices. They assist banks and law enforcement personnel in fighting crime and combating fraud. Forensic accounting professionals play an instrumental role in helping banks to eliminate the financial conflicts. These professionals enjoy immense significance in the banking sector as they prevent substantial losses to sustain profitability. Fraudulent practices cost banking organisations and government billions of dollars and these figures are rapidly growing. With the advent of technological innovations, cyber frauds have increased at an alarming pace. Forensic accounting professionals deploy various tools and strategies to prevent fraudsters, and prevent them from falsely stealing money from the bank. Hence; India is also not lagging in the race to incorporate forensic accounting in its operational activities. The; objective of this research study is to critically evaluate the effectiveness of forensic accounting process in the banking sector with insight from accounting professionals. The; selected respondents for this study consist of banking accounting professionals of nationalized banks in Bengaluru. We; also discussed the impact of forensic accounting in the current scenario with insight from accounting professionals in the banking sector. The; survey findings was assessed with the help of a statistical tools, and the implications has been clearly stated. The research work was concluded with the presentation of further scope in this particular arena.

KEYWORDS: Banking Sector, Forensic Accounting, Thefts & Frauds, Banking Sector, Audits.

Introduction

India is a vast operator of financial services inclusive of both formal and informal mode. The arrangement of financial institutions plays a tremendous role in facilitating flow of funds within the economy. Thus the importance of this segment is heavy and needs close lookout with respect to its operation. Along with maintaining financial stability in this segment, it is also necessary to assure customer protection. The duty lies on the shoulder of not only the regulators but also on the financial institutional operators. Forensic accounting or forensic auditing is a buzzing word in this case.

* Assistant Professor, Department of Commerce, Swamy Vivekananda Rural First Grade College, Chandapura, Anekal Taluk, Bengaluru, Karnataka, India.
** Assistant Professor, Department of Commerce, Swamy Vivekananda Rural First Grade College, Chandapura, Anekal Taluk, Bengaluru, Karnataka, India.
*** Assistant Professor, Department of Commerce, Swamy Vivekananda Rural First Grade College, Chandapura, Anekal Taluk, Bengaluru, Karnataka, India.

In the twenty-first century, frequent bank frauds have eroded stakeholder confidence in their everyday financial transactions and created tough questions about the effectiveness of banks, internal control procedure, financial reporting system, and accountability. Forensic Accounting is the process of locating, recording, setting, subtracting, sorting, reporting, and verifying past data on other accounting activities to resolve current or future legal disputes or to use such past financial data to project future financial data to determine future financial conflicts. As the banking processes are shifting to the digital realm, the risk of fraud and cyber security threats is rising dramatically. Banks and financial organisations are increasingly at risk of numerous fraudulent practices, such as cyber security threats, fraudulent borrowers, and identity theft. They seek out skilled and trained professionals to effectively mitigate this threat by conducting thorough risk assessments. Forensic is a word, which we usually encounter in crime thrillers and connection with highly-sensitive law enforcement departments. The term forensic accountant is bound to transport our mind to an investigation of the crime scene. But that is not the case. We find forensic accountants in the banking and finance sectors. They play increasingly sensitive and challenging roles. These highly skilled and competent professionals work to fight crimes and combat fraud in the banking sector. Though; it is clear that the use of Forensic Accounting services is not yet widespread in India, the rate at which financial crimes are increasing in the banking sector has shown a spotlight on the need for forensic expertise. Banks; must demonstrate greater accountability, fairness, and transparency as they carry out their tasks with integrity to maintain public trust and goodwill in India. Numerous fraudulent practices, such as cyber security concerns, fraudulent borrowers, and identity theft, are increasingly posing a threat to banks and financial institutions. The present paper tried to provide the detailed about effectiveness of forensic accounting in the banking sector with insight from an accounting professionals.

The; effectiveness of forensic accounting in the banking sector is measured with the help of a comparison test between the data related to the number of scam victims before and after an installation of forensic accounting system. In; this respect, events of occurrence of the number of financial disputes are solved before and after the installation of forensic accounting.

Literature Review

The importance of forensic accounting system in the modern world can be assessed by going through the review of following literatures that have given varied but equivalent view about this process and its importance.

- **Heitger (2008)** Although there is an overlap between some services that forensic accounting provides (e.g. fraud detection and cybercrimes detection; litigation services and business valuation), the vast majority of research in the forensic accounting area have classified the services offered by forensic accountants into four main categories, which are litigation services.
- **According to Hegazy et al. (2017).** Forensic accountants may act as an advisor providing professional assistance to lawyers in the litigation process or present evidence in a financial lawsuit. Litigation support services may include; dispute resolution, dispute advisory, expert witness engagements and consulting services.
- **Forensic accounting has been defined as a science by Zia (2010).** According to the author's point of view, the effectiveness of forensic accounting emerges out prosperously when in an organization a perfect blend of accounting, finance, auditing and tax is made. Not only this, the blend of these ingredients has to be fully utilised for analysing, inquiring, investigating, examining and testing jurisdictions.
- A similar point of view regarding forensic accounting has also been presented by Crumbley (2005) who believed that this branch of accounting has taken birth from a perfect integration level of accounting, investigation and auditing.
- As per the analysis presented by Zysman (2004), the integrative approach of forensic accounting provides strong basis for a matter of discussion in the court. The outcome of the discussion instigated by results of forensic accounting process at times shall take up the mode of debate that would finally resolve a dispute. The author of this literature has also described forensic accounting as a integrative process that comes as a concrete process of auditing, investigation and accounting.
- **Chaturvedi (2015)** has tried to measure some white collar crimes within the complex corporate environment in India with the help of forensic accounting system.

- **Singh (2012)** has researched about the uniqueness of forensic accountants and growing acceptance of them in the modern corporate world.
- **Chakrabarti (2014)** has discussed about forensic accounting as a profession in India and evaluated its problems and outlook.
- **Sharma (2014)** has evaluated the tools of forensic accounting with respect to their effectiveness in detection and prevention of financial frauds in India.
- **Shaheen et.al (2014)** have discussed about the recent scope of forensic accounting in India and suggested that its effectiveness can be improved a lot if it is used as an investigative tool rather than a preventive tool.
- **Wadhwa and Pal (2012)** have critically examined the available tools and techniques of forensic accounting system in regards to their role in detection of frauds in India.
- **Dubey (2014)** has scrutinised forensic audit as an effective mode of examining evidence in a standardized manner as prescribed by the court. These reviewed literatures lack the use of primary data from the field of personnel using forensic accounting practically. Thus considering this gap, the present research work has been undertaken.

Research Objectives

The following are the main objectives of this research paper:

- To measure the level of effectiveness of forensic accounting with insight from accounting professionals in banking sector.
- To anticipate future scope of Forensic Accounting System in Banking Sector

Research Methodology

The study was carried out based on both primary and secondary data, which was quantitative and descriptive in nature. The research articles, books, journals, websites, etc. were the main source for secondary data. Primary data was collected from a set of Accounting Professionals belonging to the banking sector. The telephonic conversation and electronic medium of questionnaire were used in survey for collecting accurate data. A group of 8 questions presented to 32 respondents, out of which 28 have replied that was analysed methodically. The; data pertaining to a number of scam victims before and after the installation of forensic accounting systems in the banking sector analyzed with the help of two paired t-test. They were also considering, data related to the number of financial disputes solved before and after the installation of forensic accounting in the banking sector. In; concerning this fact, data is also analyzed with the help of t-test.

- **Sample Structure Criteria**

Table 1: Data of Sample Structure Criteria

Criteria	Requirement
Location of the Bank	Bengaluru
Type of the Bank	Commercial and Nationalised Banks
Designation of Respondents	Branch Manager, Deputy Manager & Other Accounting Professionals (users of forensic accounting)
Effectiveness of Forensic Accounting in the Banking Sector	Extracted through electronic questionnaires and telephonic conversation.
Sample Size	28 respondents

Source: Own

Research Hypothesis

Hypothesis I

- H₀:** There is no significant difference between the number of scam victims before and after installation of the forensic accounting system.
- H₁:** There is significant difference between the number of scam victims before and after installation of the forensic accounting system.

Hypothesis II

H₀: There is no significant difference between the number of financial disputes solved before and after installation of the forensic accounting.

H₁: There is significant difference between the number of financial disputes solved before and after installation of forensic accounting.

Research Analysis and Findings

- Testing Hypothesis I**

Let the number of scam victims before installation of the forensic accounting system designated as X1 and the number of scam victims after installing the forensic accounting system designated as X2.

Then taking the null hypothesis that the installation of forensic accounting systems has not reduced the number of scam victims,

H₀: $\mu_1 = \mu_2$

H₁: $\mu_1 \neq \mu_2$

The level of significance at which the result was tested is 5 %.

The above hypothesis was tested with the help of t- test for the difference between two sample means whose test statistic is given by

$$\sigma = \frac{\sqrt{\sum(x_1 - \bar{x}_1)^2 + \sum(x_2 - \bar{x}_2)^2}}{n_1 + n_2 - 2}$$

$$\sigma = \frac{\sqrt{744 + 259}}{28 + 28 - 2} = 18.574$$

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sigma} \times \frac{\sqrt{n_1 n_2}}{n_1 + n_2}$$

$$t = \frac{19 - 7}{18.574} \times \frac{\sqrt{28 \times 28}}{28 + 28} = 2.215$$

The degrees of freedom for the test is (n-1), i.e., (28-1) = 27.

The collected data are as follows:

Table 2: Data of Respondents' reply towards the Number of Scam Victims before and after Installation of Forensic Accounting System

Scam victims by customers before installation of forensic accounting (x1)	Scam victims by customers after installation of forensic accounting (x2)	Difference square = $(x_1 - \bar{x}_1)^2$	Difference square = $(x_2 - \bar{x}_2)^2$
17	9	4	4
19	8	0	1
21	9	4	4
16	4	9	9
14	6	25	1
11	5	64	4
22	12	9	25
15	11	16	16
13	7	36	0
17	9	4	4
13	3	36	16
8	2	121	25
18	10	1	9
20	11	1	16
12	2	49	25

14	10	25	9
14	9	25	4
11	7	64	0
19	9	0	4
17	8	4	1
23	8	16	1
22	10	9	9
11	3	64	16
16	9	9	4
13	7	36	0
18	5	1	4
8	3	121	16
10	2	81	25
$\sum X1 = 532$	$\sum X2 = 196$	$\sum (X1 - \bar{x}1)^2 = 744$	$\sum (X2 - \bar{x}2)^2 = 259$
$\bar{x}1 = \frac{\sum X1}{n} = 19$	$\bar{x}2 = \frac{\sum X2}{n} = 7$		
n	n		

Source: Own

Calculation of t statistic using Excel

t-Test: Paired Two Samples for Means

	Variable 1	Variable 2
Mean	14	7
Observation	28	28
Hypothesis Mean Difference	0	
Df	27	
t stat	18.574	
P(T<=t) one-tail	1.982	
t critical one tail	1.703	
P(T<=t) two-tail	2.215	
t critical two tail	2.052	

The above calculation is regarding the data presented in Table 2

Since the calculated value of t is (2.215) greater than critical value of t (2.052), hence the null hypothesis is rejected and alternative hypothesis is accepted with the conclusion that installation of forensic accounting system has definitely played a significant role in reducing the number of scam victims in banking sector in India.

• Testing Hypothesis II

The second hypothesis is related to the testing of assumption that after application of forensic accounting system in banking sector has decline the solving of financial disputes. Thus the framing of null and alternative hypothesis is as follows:

H₀: There is no significant difference between the number of financial disputes solved before and after installation of forensic accounting.

H₁: There is significant difference between the number of financial disputes solved before and after installation of forensic accounting.

Then taking the null hypothesis that installation of forensic accounting system has not reduced the number of financial disputes solution.

H₀: $\mu_1 = \mu_2$

H₁: $\mu_1 \neq \mu_2$

The level of significance at which the result will be tested is 5 %.

The above hypothesis will be tested with the help of t-test for difference of two sample means whose test statistic is given by

$$\sigma = \frac{\sqrt{\sum(x1-\bar{x}1)^2 + \sum(x2-\bar{x}2)^2}}{n1+n2-2}$$

$$\sigma = \frac{\sqrt{211+335}}{28+28-2} = 3.208$$

$$t = \frac{\bar{x}1 - \bar{x}2}{\sigma} \times \frac{\sqrt{n1 \times n2}}{n1+n2}$$

$$t = \frac{4-12}{3.208} \times \frac{\sqrt{28 \times 28}}{28+28} = 4.66$$

The degrees of freedom for the test are (n-1) i.e. (28-1) = 27.

The collected data are as follows:

Table 3: Data of Respondents' reply towards the number of Financial Disputes Solution before and after Installation of Forensic Accounting System

Solving Financial Disputes before Installation of Forensic Accounting X_1	Solving Financial Disputes after Installation of Forensic Accounting X_2	Square Deviation from Mean $(x_1 - \bar{x}_1)^2$	Square Deviation from Mean $(x_2 - \bar{x}_2)^2$
7	17	1	25
6	15	4	9
9	19	1	36
10	21	4	81
4	14	16	4
8	11	0	1
10	12	4	0
12	13	16	1
3	8	25	16
5	10	9	4
3	6	25	36
6	9	4	9
10	11	4	1
11	12	9	0
5	14	9	4
14	10	36	4
7	12	1	0
6	17	1	25
8	14	0	4
10	12	4	0
11	14	11	4
9	12	1	0
10	11	4	1
7	8	1	16
6	10	4	4
11	7	9	25
10	8	4	16
6	9	4	9
$\sum X_1=224$ $\bar{x}_1=8$	$\sum X_2=336$ $\bar{x}_2=12$	$\sum(x1 - \bar{x}1)^2 =211$	$\sum(x2 - \bar{x}2)^2 =335$

Source: Own

Calculation of t statistic using Excel

t-Test: Paired Two Samples for Means

	Variable 1	Variable 2
Mean	8	12
Observation	28	28
Hypothesis Mean Difference	0	
Df	27	
t stat	3.028	
P(T<=t) one-tail	2.712	
t critical one tail	1.703	
P(T<=t) two-tail	4.66	
t critical two-tail	2.052	

The above calculation is concerning the data presented in Table 3

The above result shows that the calculated value of t statistic falls under the rejection criteria, and. Hence, it is concluded that there is no significant difference between solving an average number of financial disputes using forensic accounting a year before and after the installation of forensic accounting is wrong. The; test result depicts that the solving number of financial disputes using forensic accounting in a year after the installation of forensic accounting has increased.

Conclusion

At present in context of banking operation quantifying the financial losses and damages suffered to huge extent. The; risk of fraud and cyber security threats is rising dramatically as banking processes shifting to the digital realm. As per the interviews conducted with the banking accounting professionals, a number of facts come into play that displayed ages of frauds taking place in the cyber world, theft of the identity, laundering of money, creation of black money, misrepresentation of accounting details, to name a few. However; the research process has ended up with generating valuable results for society. The; paired t-test used for evaluating the first hypothesis result depicted that the banks that surveyed experienced a tremendous change in terms of a decrease in the number of scam victims after installing a forensic accounting system. Another; t-test for the difference between the two sample means is used to test the second hypothesis, and it was found that the average number of solving financial disputes using a forensic accounting in a year after installation of forensic accounting increased. The; selected forensic accounting system techniques assessed as per their popularity. After analyzing the research results, it is recommended for further research in this area by taking a large sample and spreading the scope of respondents' coverage around the country. The use of better test statistics can also work well in generating better results. During; the research process, the set of objectives fulfilled with a few limitations. However, the constraints will overcome in the future if further studies conducted on the same area.

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