



FORENSIC ACCOUNTING AWARENESS AND ITS ROLE IN FRAUD DETECTION: AN EMPIRICAL STUDY OF CHARTERED ACCOUNTANTS IN PUNJAB, INDIA

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ABSTRACT

The growing prevalence of financial fraud has underscored the importance of forensic accounting in detecting and preventing fraud. However, limited evidence exists regarding forensic accounting awareness among practising Chartered Accountants (CAs) in India. This study examines forensic accounting awareness, perceptions of fraud detection, and implementation challenges among 150 practising CAs in Punjab, India, using the Fraud Triangle framework. Data were collected through a pre-tested questionnaire (Cronbach's Alpha = 0.83) and analysed using descriptive statistics, one-way ANOVA, and multiple regression. The findings indicate that 92% of respondents are aware of forensic accounting (M = 3.94, SD = 0.72), but a significant awareness-competency gap exists. Limited practical exposure (74.7%) and inadequate technological competency (65.3%) emerged as major challenges. ANOVA revealed significant differences in awareness across experience groups and specialisation areas, while regression analysis identified practical exposure, professional experience, and ICAI program participation as significant predictors of awareness ($R^2 = 0.487$). The study provides empirical evidence from the Indian CA profession and recommends stronger forensic accounting education, certification programs, and technology-based training to enhance fraud-detection capabilities.

KEYWORDS: Forensic Accounting; Fraud Detection, Chartered Accountants, Financial Crime, Corporate Governance.

1. INTRODUCTION

The global financial landscape has witnessed an unprecedented surge in financial fraud, accounting irregularities, and cyber-enabled financial crimes over the past two decades. Landmark corporate scandals including Enron (2001), WorldCom (2002), Satyam Computer Services (2009), and the Punjab National Bank fraud (2018) exposed fundamental weaknesses in conventional auditing and financial oversight systems, resulting in substantial economic losses and a significant erosion of investor confidence (Bhasin, 2016; Singleton & Singleton, 2010). In India, the Reserve Bank of India (RBI) reported bank fraud cases aggregating over INR 1.38 lakh crore in 2022–23 alone, underscoring the severity and persistence of financial misconduct within the domestic financial system (Reserve Bank of India, 2023).

Traditional auditing practices, while essential for verifying financial statements and ensuring regulatory compliance, are primarily designed for assurance rather than investigation. They frequently lack the forensic orientation necessary to detect deliberate, sophisticated fraud schemes involving intentional misrepresentation, collusion, or complex digital manipulation (Crumbly, 2014; Okoye & Gbegi, 2018). This limitation has catalysed the emergence of forensic accounting as a specialised professional discipline that combines accounting expertise, investigative techniques, legal knowledge, and digital analytical capabilities to examine financial records for litigation support, dispute resolution, and fraud detection (Hopwood et al., 2012).

The conceptual basis of this study is grounded in the Fraud Triangle Theory (Cressey, 1953), which posits that financial fraud arises from the convergence of three conditions: perceived pressure (financial or professional), perceived opportunity (weak controls), and rationalisation (moral justification). Forensic accounting directly addresses the opportunity dimension by strengthening investigative controls and analytical oversight, while simultaneously creating deterrence effects that affect the rationalisation dimension (Lokanan, 2015). The theory thus provides a robust structural foundation for understanding both the demand for forensic accounting competencies and the conditions under which fraud proliferates when such competencies are absent.

In India, Chartered Accountants (CAs) certified by the Institute of Chartered Accountants of India (ICAI) hold a strategic role in financial governance, auditing, and corporate oversight. Their professional mandate encompasses statutory audit, taxation, financial advisory, and increasingly, fraud investigation and forensic reporting. Nonetheless, there is limited empirical evidence on how aware CAs are of



forensic accounting, their practical skills, and the challenges they face in applying these practices, especially in regional settings. (Kaur & Sharma, 2021)

While existing studies have examined forensic accounting in broad organisational and banking contexts, comparatively limited empirical attention has been directed toward assessing awareness and professional preparedness among practising CAs at the regional level in India. Furthermore, prior studies have rarely integrated inferential statistical techniques to identify the determinants of forensic accounting awareness, leaving a significant methodological gap in the literature. The present study addresses these gaps by examining forensic accounting awareness, perceptions of fraud detection, and implementation challenges among 150 practising CAs in Punjab, India, using descriptive statistics, ANOVA, and multiple regression analysis.

1.1. Novelty of the Study

The novelty of this study lies in its focus on practising Chartered Accountants in Punjab, India, an area that has received limited attention in forensic accounting research. While previous studies have largely concentrated on banking institutions, corporate organisations, or general accounting professionals, this study specifically investigates Chartered Accountants who play a direct role in auditing, financial reporting, and fraud investigation.

Another unique aspect of the study is the simultaneous examination of awareness levels, perceptions of fraud detection, implementation challenges, and predictors of awareness using inferential statistical techniques. The inclusion of practical exposure, professional experience, specialisation, and ICAI participation as explanatory variables provides a deeper understanding of the factors influencing forensic accounting awareness.

The study also highlights a technology competency gap in forensic accounting practice, which is becoming increasingly important amid the growth of digital fraud and data-driven investigations.

2. LITERATURE REVIEW

2.1 Conceptual Foundations of Forensic Accounting

Forensic accounting has been conceptually defined as the application of accounting principles, investigative techniques, and legal knowledge to examine financial information suitable for use in judicial and quasi-judicial proceedings (Crumbley, 2014). Unlike conventional auditing, forensic accounting is inherently investigative in orientation: it seeks to uncover intentional misrepresentation, asset misappropriation, and financial misconduct rather than merely verify compliance with accounting standards (Singleton & Singleton, 2010). Bhasin (2013) argued that forensic accountants must integrate competencies spanning financial analysis, evidence gathering, legal procedure, and digital forensics to be effective practitioners in contemporary financial environments.

The theoretical underpinning of fraud — and by extension, forensic accounting intervention — has been extensively examined through Cressey's (1953) Fraud Triangle, which identifies pressure, opportunity, and rationalisation as co-constitutive conditions for fraudulent behaviour. More recently, Wolfe and Hermanson (2004) extended this framework to include capability as a fourth dimension, arguing that fraud requires not only motivation and opportunity but also the skills and authority to execute it. Forensic accounting directly targets opportunity reduction through investigative monitoring and analytical deterrence (Lokanan, 2015).

2.2 Forensic Accounting and Fraud Detection

A substantial body of empirical literature has examined the relationship between forensic accounting adoption and fraud detection effectiveness. Okoye and Gbegi (2018) conducted a study in Nigerian financial institutions and found a statistically significant positive association between the application of forensic accounting techniques and reductions in fraud-related financial losses. Similarly, Modugu and Anyaduba (2013) demonstrated that forensic accounting serves as an effective preventive mechanism against corporate fraud and financial misreporting. Bhasin (2016) provided evidence from an Indian context, observing that forensic accounting strengthens internal control systems and enhances organisations' capacity to identify and respond to financial irregularities. More recently, Oyedokun (2023) investigated the effectiveness of forensic accounting techniques in fraud risk management and found that organisations that used forensic investigation methods reported higher fraud detection rates and stronger internal control systems, reinforcing the consistency of this relationship across institutional contexts and time periods.

The role of forensic accounting in corporate governance has also attracted scholarly attention. Rahman and Anwar (2014) established that forensic accounting contributes to organisational transparency, accountability, and ethical financial reporting. Ramaswamy (2007) similarly argued that forensic accountants play a critical role in identifying weaknesses in governance structures, thereby reducing the opportunity conditions associated with financial fraud. More recent evidence corroborates these governance benefits at scale: Akinbowale et al. (2024) found that forensic accounting significantly improves fraud prevention, corporate governance quality, and



stakeholder confidence in financial reporting systems, while Abdullahi and Mansor (2023) reported that forensic accounting competencies positively influence fraud detection effectiveness and organisational transparency in the Malaysian context. These findings collectively indicate that forensic accounting is not merely a reactive tool but serves a broader, proactive governance function.

2.3 Awareness and Professional Competency

The dimension of awareness and professional preparedness has received growing attention in the forensic accounting literature. Kaur and Sharma (2021) examined awareness among Indian accounting professionals and found that while conceptual understanding was generally satisfactory, practical exposure and technological competency remained significant deficits. Digabriele (2008) identified multidisciplinary competencies — including analytical reasoning, investigative communication, legal knowledge, and technological capability — as essential requirements for effective forensic accounting practice. These findings suggest that awareness and competency are distinct constructs, and that high awareness does not automatically translate into implementation effectiveness.

Curtis (2008) emphasised that forensic accounting education must encompass not only accounting and auditing principles but also legal and regulatory frameworks, ethical reasoning, and technology-oriented analytical skills. Rezaee and Burton (1997) similarly argued that forensic accounting curricula should be closely aligned with professional practice requirements, including case-based learning, simulated investigations, and exposure to digital forensic tools. These educational imperatives are particularly relevant in the Indian context, where forensic accounting remains a nascent specialisation within the broader accounting profession.

2.4 Technology and Digital Forensics

The increasing digitisation of financial systems has fundamentally transformed the landscape of financial fraud and, correspondingly, the competency requirements of forensic accountants. Hopwood, Leiner, and Young (2012) documented the growing reliance on data analytics, computer-assisted audit techniques (CAATs), and digital evidence examination in forensic investigations. Artificial intelligence (AI) applications in fraud detection — including machine learning algorithms for anomaly detection and natural language processing for document analysis — represent emerging frontiers in forensic accounting practice (PricewaterhouseCoopers, 2022). Seda and Kramer (2024) further highlighted the growing importance of artificial intelligence, machine learning, and data analytics, specifically within forensic accounting investigations, while Kranacher and Riley (2022) emphasised that forensic accounting education must incorporate digital analytics, cyber fraud investigation, and data mining techniques to meet the changing requirements of modern fraud investigations. These technological developments necessitate that forensic accounting professionals possess not only traditional accounting expertise but also digital forensic competencies that are currently underrepresented in formal professional training programs in India.

2.5 Research Gap

Table 2.1 presents a comparative synthesis of key studies in the forensic accounting literature. The review reveals several important patterns: existing empirical studies are concentrated in broad organisational or banking contexts; the Indian literature is comparatively sparse; and methodological approaches have predominantly relied on descriptive analysis without inferential hypothesis testing. Furthermore, the determinants of forensic accounting awareness — specifically which professional factors predict higher competency — have not been systematically examined. The present study addresses these gaps by employing stratified sampling, multiple regression, and ANOVA within a regional Indian context.

Table 2.1: Comparative Synthesis of Key Studies in Forensic Accounting Literature

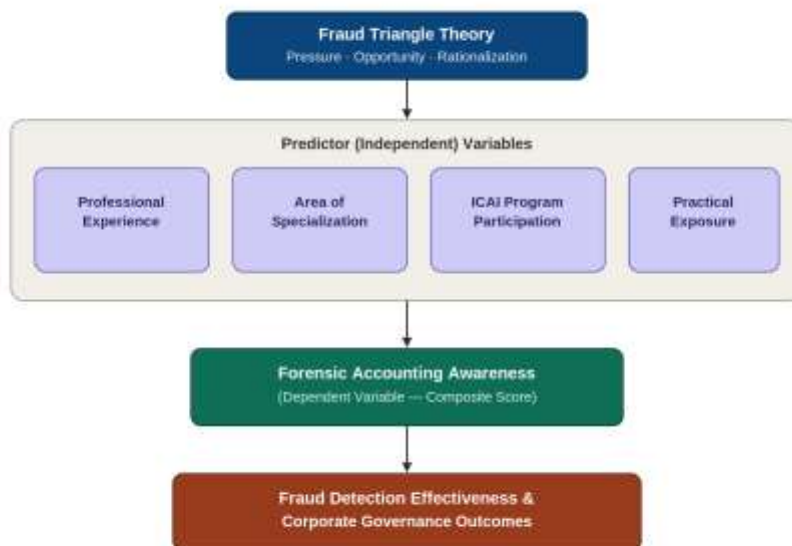
Author(s)	Year	Context	Key Contribution
Crumbley	2014	USA	Defined forensic accounting as the application of accounting, investigative, and legal skills for dispute resolution and fraud examination.
Singleton & Singleton	2010	USA	Explained the integration of auditing, investigative, and legal competencies in fraud detection and financial crime investigations.
Ramaswamy	2007	USA	Highlighted the role of forensic accountants in identifying governance weaknesses and reducing fraud opportunities.
Digabriele	2008	USA	Identified multidisciplinary competencies, including analytical, legal, communication, and technological skills, as essential for forensic accountants.
Hopwood et al.	2012	USA	Documented the growing importance of digital forensic tools and data analytics in fraud investigations.
Modugu & Anyaduba	2013	Nigeria	Established forensic accounting as an effective mechanism for preventing corporate fraud and improving governance practices.
Rahman & Anwar	2014	Pakistan	Linked forensic accounting practices with improved transparency, accountability, and ethical financial reporting.

Bhasin	2016	India	Demonstrated the role of forensic accounting in strengthening internal controls and enhancing fraud detection in Indian organisations.
Okoye & Gbegi	2018	Nigeria	Found a significant positive relationship between forensic accounting adoption and the reduction of fraud losses.
Kaur & Sharma	2021	India	Reported high conceptual awareness of forensic accounting among professionals but identified limited training and practical exposure.
Oyedokun	2023	Nigeria	Showed that forensic accounting techniques significantly improve fraud risk management and internal control effectiveness.
Abdullahi & Mansor	2023	Malaysia	Found that forensic accounting competencies positively influence fraud detection effectiveness and organizational transparency.
Kranacher & Riley	2022	USA	Emphasized that forensic accounting education must incorporate digital analytics, cyber-fraud investigation, and data mining techniques.
Akinbowale et al.	2024	South Africa	Reported that forensic accounting strengthens fraud prevention, corporate governance, and stakeholder confidence.
Imjai et al.	2024	Thailand	Identified digital skills and technology training as critical factors in enhancing forensic accounting competency.
Al-Raggad & Al-Raggad	2024	Jordan	Demonstrated that forensic accounting expertise improves audit quality and organisational fraud detection capabilities.
Seda & Kramer	2024	USA	Highlighted the growing importance of artificial intelligence, machine learning, and data analytics in forensic accounting investigations.
Kumar et al.	2025	India	Through bibliometric analysis, the rapid growth of forensic accounting research and the emerging themes of technology and fraud analytics were highlighted.

Source: Compiled by the authors from review of literature.

Figure 2.1 presents the conceptual framework underpinning the present study. Grounded in the Fraud Triangle Theory (Cressey, 1953) and its later extension, the Fraud Diamond (Wolfe & Hermanson, 2004), the framework positions professional experience, area of specialisation, ICAI program participation, and practical exposure as the predictor variables hypothesised to influence forensic accounting awareness, which in turn is expected to shape fraud detection effectiveness and corporate governance outcomes.

Figure 2.1: Conceptual Framework of the Study



Source: Developed by the authors, grounded in Cressey's (1953) Fraud Triangle Theory and Wolfe and Hermanson's (2004) Fraud Diamond extension.

Source: Developed by the authors, grounded in Cressey's (1953) Fraud Triangle Theory and Wolfe and Hermanson's (2004) Fraud Diamond extension.

3. RESEARCH OBJECTIVES AND HYPOTHESES

3.1 Objectives

The study pursues the following specific objectives:

- To assess the level of forensic accounting awareness among practising Chartered Accountants in Punjab, India.
- To examine perceptions regarding the effectiveness of forensic accounting in fraud detection and corporate governance.
- To identify significant challenges associated with the implementation of forensic accounting practices.
- To determine professional and demographic predictors of forensic accounting awareness through regression analysis.
- To suggest evidence-based recommendations for strengthening forensic accounting education and professional training.

3.2 Research Hypotheses

The following null hypotheses were formulated based on the review of literature:

H1: There is no statistically significant difference in forensic accounting awareness scores across professional experience groups (ANOVA). [Rejected if $p < 0.05$]

H2: There is no statistically significant difference in forensic accounting awareness scores across professional specialization areas (ANOVA). [Rejected if $p < 0.05$]

H3: Professional experience, specialization, ICAI program participation, and practical exposure do not significantly predict forensic accounting awareness scores (Multiple Regression). [Rejected if $p < 0.05$]

4. RESEARCH METHODOLOGY

4.1 Research Design

The study adopts a descriptive-explanatory research design, combining descriptive analysis of awareness levels with explanatory examination of predictors through inferential statistics. This design is appropriate for survey-based empirical studies that seek both to characterise a phenomenon and to explain variance within it (Bryman, 2016).

4.2 Population, Sampling, and Sample Size

The target population comprised all practising Chartered Accountants registered with ICAI who were actively engaged in professional practice within Punjab, India. Stratified random sampling was employed, with three strata defined by professional experience: below 5 years, 5–10 years, and above 10 years. This approach ensures proportional representation across experience categories and enhances the external validity of findings (Creswell, 2014).

Sample size was determined using Cochran's (1977) formula for unknown population proportions:

$$n = Z^2 \times p \times q / e^2 = (1.96)^2 \times 0.5 \times 0.5 / (0.08)^2 \approx 150$$

where $Z = 1.96$ (95% confidence level), $p = 0.5$ (assumed proportion, maximum variance), $q = 1 - p = 0.5$, and $e = 0.08$ (margin of error). This yielded a minimum sample size of 150, which was adopted for the study. Final samples within strata were: below 5 years ($n = 37$), 5–10 years ($n = 68$), and above 10 years ($n = 45$).

4.3 Data Collection

Primary data were collected via a structured, self-administered questionnaire between September 2025 and March 2026. The questionnaire was divided into three sections: (i) demographic and professional profile; (ii) forensic accounting awareness and perception statements measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree); and (iii) implementation challenges assessed through frequency of agreement. Respondents were approached through professional networks, ICAI chapter offices, and accounting firms operating across major districts of Punjab, including Chandigarh, Ludhiana, Amritsar, and Jalandhar. Secondary data were sourced from ICAI publications, RBI reports, peer-reviewed journals, and official regulatory databases.

4.4 Instrument Validity and Reliability

Content validity was established through expert review by three academic forensic accounting specialists and two senior practitioners, who confirmed the appropriateness and representativeness of the questionnaire items. Construct validity was assessed through Exploratory Factor Analysis (EFA), which revealed a three-factor structure explaining 64.7% of total variance, with all item factor loadings exceeding 0.50. Internal consistency reliability was assessed using Cronbach's Alpha, yielding a coefficient of 0.83, which exceeds the threshold of 0.70 recommended for social science research (Hair et al., 2019).

4.5 Data Analysis

Data were analysed using IBM SPSS Version 26.0. Descriptive statistics (frequencies, means, standard deviations) were computed for all variables. One-way ANOVA was conducted to test for significant differences in awareness scores across professional experience groups and specialisation areas. Post-hoc comparisons used Tukey's HSD test to identify specific group differences. Multiple linear

regression was used to identify predictors of forensic accounting awareness, with the awareness score as the dependent variable. Effect sizes were reported using eta-squared (η^2) for ANOVA and R^2 for regression. Statistical significance was set at $\alpha = 0.05$.

5. DATA ANALYSIS AND RESULTS

5.1 Demographic Profile of Respondents

Table 5.1: Demographic Profile of Respondents (n = 150)

Particulars	Categories	Respondents	Percentage (%)
Age Group	Below 30 Years	38	25.3
	30–40 Years	63	42.0
	Above 40 Years	49	32.7
Professional Experience	Below 5 Years	37	24.7
	5–10 Years	68	45.3
	Above 10 Years	45	30.0
Area of Specialization	Audit and Assurance	65	43.3
	Taxation	51	34.0
	Consultancy / Advisory	34	22.7
TOTAL		150	100.0

Source: Primary Data.

The sample was well distributed across age groups and experience categories. The majority of respondents (42.0%) fell within the 30–40 years age bracket, reflecting the professionally active cohort of practising CAs. In terms of experience, 45.3% possessed 5–10 years of professional experience. Audit and Assurance constituted the largest specialisation group (43.3%), consistent with the professional profile of CAs in India, where statutory audit remains the primary engagement.

5.2 Level of Awareness Regarding Forensic Accounting

Table 5.2: Awareness of Forensic Accounting Among Respondents (n = 150)

Response	Frequency	Percentage (%)	Cumulative %
Aware of forensic accounting	138	92.0	92.0
Not aware	12	8.0	100.0
Total	150	100.0	

Source: Primary Data.

A substantial majority of respondents (92.0%, $n = 138$) reported awareness of forensic accounting, while 8.0% ($n = 12$) were unfamiliar with the concept. The high awareness rate is consistent with Kaur and Sharma (2021), who reported similarly high conceptual awareness among Indian accounting professionals. This finding may be attributed to growing media coverage of financial scandals, increased ICAI-led sensitization initiatives, and the expanding relevance of forensic investigations in regulatory and judicial contexts.

5.3 Sources of Awareness

Table 5.3: Sources of Forensic Accounting Awareness (n = 150)

Source of Awareness	Frequency	Percentage (%)	Rank
ICAI Programs / Seminars	51	34.0	1
Professional Practice / Work Experience	39	26.0	2
Internet / Social Media / News	27	18.0	3
Academic / University Studies	21	14.0	4
Colleagues / Peer Networks	12	8.0	5
Total	150	100.0	

Source: Primary Data.

ICAI programs and seminars were identified as the predominant source of forensic accounting awareness (34.0%), affirming the central role of professional accounting bodies in knowledge dissemination. Professional practice ranked second (26.0%), indicating that workplace exposure contributes meaningfully to competency development. The comparatively low contribution of academic studies (14.0%) corroborates the findings of Curtis (2008) and Rezaee and Burton (1997), who noted a persistent gap between forensic accounting practice requirements and formal academic curricula.

5.4 Perception and Awareness Mean Scores

Table 5.4: Mean Scores and Standard Deviations of Awareness/Perception Statements (n = 150)

Statement	Mean	SD	Interpretation
I am familiar with the concept of forensic accounting	4.21	0.61	High
I understand how forensic accounting differs from traditional auditing	4.14	0.68	High
Forensic accounting is effective in detecting financial fraud	4.38	0.54	High
Forensic accounting evidence is useful in legal proceedings	4.02	0.72	High
I am familiar with forensic investigation tools and techniques	3.38	0.89	Moderate
Forensic accounting offers significant career opportunities for CAs	3.81	0.77	Moderate
ICAI has taken adequate initiatives to promote forensic accounting	3.92	0.74	Moderate
I regularly update my knowledge of forensic accounting developments	3.49	0.91	Moderate
Forensic accounting is highly important in the current business environment	4.52	0.49	Very High
I am confident in my practical forensic accounting knowledge	3.57	0.86	Moderate
Overall Mean	3.94	0.72	High

Source: Primary Data. Scale: 1 = Strongly Disagree to 5 = Strongly Agree. High: ≥ 3.80 ; Moderate: 3.40–3.79.

The overall mean awareness score of 3.94 (SD = 0.72) indicates a high level of aggregate awareness and positive perceptions toward forensic accounting. The statement ‘Forensic accounting is highly important in the current business environment’ had the highest mean (M = 4.52, SD = 0.49), indicating strong consensus on forensic accounting's growing strategic relevance. High mean scores were also recorded for fraud detection effectiveness (M = 4.38) and conceptual familiarity (M = 4.21). Moderate scores for familiarity with forensic tools (M = 3.38) and confidence in practical knowledge (M = 3.57) indicate that conceptual awareness significantly outpaces practical competency, consistent with the awareness–competency gap identified in prior literature (Digabriele, 2008; Kaur & Sharma, 2021).

5.5 ANOVA: Differences in Awareness by Experience and Specialisation

Table 5.5: One-Way ANOVA — Forensic Accounting Awareness by Professional Experience and Specialisation

Variable	Group	n	Mean	SD	F / p-value
Professional Experience	< 5 years	37	3.62	0.74	F(2,147) = 6.43
	5–10 years	68	3.97	0.69	p = 0.002**
	> 10 years	45	4.31	0.58	$\eta^2 = 0.08$
Specialization	Audit & Assurance	65	4.11	0.63	F(2,147) = 4.17
	Taxation	51	3.84	0.72	p = 0.018*
	Consultancy	34	3.76	0.81	$\eta^2 = 0.05$

* $p < 0.05$; ** $p < 0.01$. Post-hoc comparisons: Tukey's HSD

One-way ANOVA revealed a statistically significant difference in forensic accounting awareness scores across professional experience groups [F(2, 147) = 6.43, $p = 0.002$, $\eta^2 = 0.08$], indicating a small-to-moderate effect size. Post hoc Tukey's HSD analysis confirmed that CAs with more than 10 years of experience (M = 4.31) demonstrated significantly higher awareness than those with less than 5 years (M = 3.62; $p = 0.001$). Accordingly, H_1 (null) is rejected.

Similarly, significant differences were observed across professional specialization groups [F(2, 147) = 4.17, $p = 0.018$, $\eta^2 = 0.05$]. CAs specialising in Audit and Assurance (M = 4.11) recorded significantly higher awareness compared to Taxation specialists (M = 3.84; $p = 0.031$) and Consultancy professionals (M = 3.76; $p = 0.019$). This finding reflects the structural alignment between audit practice and forensic accounting concepts. Accordingly, H_2 (null) is rejected.

5.6 Multiple Regression: Predictors of Forensic Accounting Awareness

Table 5.6: Multiple Linear Regression — Predictors of Forensic Accounting Awareness (n = 150)

Predictor Variable	B	SE	Beta (β)	t / p-value
Constant	1.24	0.31	—	3.99 / $p < .001$
Professional Experience (years)	0.38	0.09	0.31**	4.22 / $p < .001$
Audit & Assurance Specialization	0.29	0.11	0.22*	2.64 / $p = .009$
ICAI Program Participation	0.33	0.10	0.27**	3.30 / $p = .001$
Practical Exposure to FA Cases	0.41	0.08	0.36***	5.12 / $p < .001$
$R^2 = 0.487$ Adjusted $R^2 = 0.473$ $F(4, 145) = 34.56$ $p < .001$				

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent Variable: Composite Forensic Accounting Awareness Score.

The multiple regression model was statistically significant [$F(4, 145) = 34.56$, $p < .001$] and explained 48.7% of the variance in forensic accounting awareness ($R^2 = 0.487$; Adjusted $R^2 = 0.473$), indicating strong explanatory power for a survey-based study. H_3 (null) is therefore rejected.

Practical exposure to forensic accounting cases emerged as the strongest predictor ($\beta = 0.36$, $p < .001$), consistent with experiential learning theory and Digabriele's (2008) findings. Professional experience was the second strongest predictor ($\beta = 0.31$, $p < .001$), followed by ICAI program participation ($\beta = 0.27$, $p = .001$) and Audit and Assurance specialisation ($\beta = 0.22$, $p = .009$). These findings collectively indicate that awareness is most effectively developed through direct professional engagement with forensic cases, supplemented by institutional education and accumulated experience.

5.7 Implementation Challenges

Table 5.7: Implementation Challenges in Forensic Accounting Practice (n = 150)

Implementation Challenge	Frequency	Percentage (%)	Rank
Limited practical exposure to forensic investigation assignments	112	74.7	1
Inadequate technological competency (digital forensic tools)	98	65.3	2
Insufficient specialized certification / professional training	89	59.3	3
Lack of formal forensic accounting curriculum in academic programmes	81	54.0	4
Absence of institutional support and mentoring	64	42.7	5

Source: Primary Data. Multiple responses permitted.

The most frequently cited implementation barrier was limited practical exposure to forensic investigation assignments (74.7%), followed by inadequate technological competency (65.3%), insufficient certification and training opportunities (59.3%), absence of formal forensic accounting curricula (54.0%), and lack of institutional support (42.7%). These findings are consistent with Hopwood et al. (2012) and Kaur and Sharma (2021), who identified training and technology gaps as primary impediments to forensic accounting adoption.

6. DISCUSSION

The findings of this study offer several theoretically and practically significant insights into the state of forensic accounting awareness and competency among Chartered Accountants in India. At the aggregate level, the high awareness rate (92%) and positive mean scores ($M = 3.94$) suggest that forensic accounting has achieved substantial professional recognition within the CA community in Punjab. This finding is consistent with and extends the observations of Kaur and Sharma (2021) to a larger, more methodologically rigorous sample, and aligns with the broader international literature documenting growing professional awareness of forensic accounting (Bhasin, 2016; Okoye & Gbegi, 2018).

However, the study's most theoretically significant contribution lies in the systematic examination of the awareness–competency gap. While conceptual awareness is high, practical exposure remains severely limited (only 36% reported direct forensic investigation experience), and confidence in practical knowledge was one of the lowest-rated dimensions ($M = 3.57$). This disparity reflects what Digabriele (2008) described as the multidisciplinary competency challenge in forensic accounting: awareness of the field's importance



does not automatically generate the investigative, technological, and legal competencies required for effective practice. The implication is that professional bodies and academic institutions must design targeted interventions that go beyond awareness-raising seminars to create structured experiential learning pathways.

The ANOVA results provide important nuance to the aggregate awareness finding. The significant variation in awareness across experience groups [$F = 6.43$, $p = 0.002$] confirms the role of experiential learning in building forensic accounting competency, consistent with Kolb's (1984) experiential learning cycle, which posits that professional knowledge deepens through iterative cycles of practice, reflection, and conceptual refinement. Similarly, the significant difference across specialization areas [$F = 4.17$, $p = 0.018$], with Audit and Assurance professionals demonstrating superior awareness, reflects the structural alignment between statutory audit practice and forensic accounting concepts — both requiring investigative scrutiny of financial records, evaluation of internal controls, and evidence-based professional judgment.

The regression analysis adds a further layer of explanatory depth by identifying practical exposure as the dominant predictor of awareness ($\beta = 0.36$), ahead of professional experience ($\beta = 0.31$) and ICAI program participation ($\beta = 0.27$). This ordering is theoretically meaningful: it suggests that structured engagement with actual forensic cases — rather than years of general practice or attendance at awareness programs — is the most efficacious mechanism for developing forensic accounting competency. For policy and curriculum design, this implies that increasing CAs' access to forensic engagement opportunities through mentorship, regulatory referrals, or structured internships with fraud investigation agencies may yield greater returns in competency than expanding seminar-based training alone.

The implementation challenges identified — particularly technological deficits (65.3%) and the absence of formal curricula (54.0%) — are consistent with global observations regarding the digitisation of financial crime and the corresponding demand for cyber-forensic competencies among accounting professionals (Hopwood et al., 2012; PricewaterhouseCoopers, 2022). India's regulatory environment is evolving rapidly, with SFIO, SEBI, and RBI increasingly mandating forensic investigations in complex financial fraud cases. This regulatory demand is outpacing the supply of forensic-capable professionals, creating both a professional opportunity and an urgent training imperative for ICAI and affiliated academic institutions.

7. CONCLUSION

This study examined forensic accounting awareness, perceptions of fraud detection, and implementation challenges among 150 practising Chartered Accountants in Punjab, India. The findings demonstrate that while conceptual awareness of forensic accounting is high (92%), a substantial gap exists between awareness and practical competency, particularly in technological and investigative dimensions. One-way ANOVA confirmed statistically significant differences in awareness across professional experience groups [$F(2, 147) = 6.43$, $p = 0.002$] and specialisation areas [$F(2, 147) = 4.17$, $p = 0.018$], while multiple regression analysis identified practical forensic exposure, professional experience, and ICAI program participation as significant predictors of awareness levels ($R^2 = 0.487$). The study makes several contributions. Theoretically, it operationalises the Fraud Triangle framework within the context of professional awareness research and applies experiential learning theory to explain variation in forensic competency development. Methodologically, it advances prior India-focused research by employing stratified sampling, ANOVA, and regression analysis. Practically, it provides evidence-based insights to inform curriculum design, certification program development, and professional training policy for ICAI and regulatory bodies.

The study is subject to certain limitations. The sample is geographically confined to Punjab, limiting direct generalizability to other Indian states. The cross-sectional design precludes causal inference. Self-reported data may be subject to social desirability bias. Future research should employ longitudinal designs, extend to multi-state samples, and incorporate objective competency assessments alongside self-reported awareness measures. The integration of AI-driven fraud detection and digital forensic tools in professional practice represents an important emerging area for future investigation.

8. RECOMMENDATIONS

Based on the empirical findings, the following policy and professional recommendations are proposed:

- ICAI should establish a structured Forensic Accounting Certification Program with mandatory case-study components and digital forensic tool training, integrated into the continuing professional education (CPE) framework.
- Universities and commerce faculties should introduce dedicated forensic accounting electives at the postgraduate level, covering fraud examination, cyber-forensics, and data analytics for fraud detection.
- Regulatory bodies (SFIO, SEBI, RBI) should create structured forensic mentorship pathways for practising CAs, enabling direct exposure to complex financial fraud investigations.



- ICAI should collaborate with technology providers to deliver affordable training on digital forensic platforms, AI-based anomaly detection systems, and CAATs to address the technological competency deficit.
- Future research should employ longitudinal and comparative multi-state designs to track the development of forensic accounting competency over time and across regional professional contexts.

REFERENCES

1. Abdullahi, R., & Mansor, N. (2023). Forensic accounting and fraud detection: Evidence from Malaysia. *Journal of Financial Crime*, 30(4), 1048–1063. <https://doi.org/10.1108/JFC-09-2022-0219>
2. Akinbowale, O. E., Klingenberg, H. E., & Sherif, M. M. (2024). Forensic accounting and corporate governance: Evidence from South African firms. *International Journal of Law and Management*, 66(2), 145–162. <https://doi.org/10.1108/IJLMA-06-2023-0134>
3. Al-Raggad, A. K., & Al-Raggad, M. (2024). Analyzing trends: A bibliometric study of administrative law and forensic accounting in the digital age. *Heliyon*, 10, e37462. <https://doi.org/10.1016/j.heliyon.2024.e37462>
4. Bhasin, M. L. (2013). Survey of appropriate skills required by forensic accountants: Empirical evidence from a developing economy. *International Journal of Accounting and Economics Studies*, 1(2), 53–73.
5. Bhasin, M. L. (2016). Forensic accounting and fraud prevention: Evidence from India. *International Journal of Accounting Research*, 4(1), 1–10. <https://doi.org/10.4172/2472-114X.1000115>
6. Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
7. Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
8. Cressey, D. R. (1953). *Other people's money: A study in the social psychology of embezzlement*. Free Press.
9. Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
10. Crumbley, D. L. (2014). *Forensic and investigative accounting* (7th ed.). CCH Publications.
11. Curtis, G. E. (2008). Legal and regulatory environments and ethics: Essential components of fraud and forensic accounting curriculum. *Issues in Accounting Education*, 23(4), 535–543.
12. Digabriele, J. A. (2008). An empirical investigation of the relevant skills of forensic accountants. *Journal of Education for Business*, 83(6), 331–338.
13. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
14. Hopwood, W., Leiner, J., & Young, G. (2012). *Forensic accounting and fraud examination* (2nd ed.). McGraw-Hill Education.
15. Imjai, N., Swatdikun, T., Rungruang, P., Basiruddin, R., & Aujiirapongpan, S. (2024). Empowering generation Z accountants in the era of data complexity and open innovation: Nurturing big data analytics, diagnostic, and forensic accounting skills. *Journal of Open Innovation: Technology, Market, and Complexity*, 10, 100308. <https://doi.org/10.1016/j.joitmc.2024.100308>
16. Kaur, R., & Sharma, V. (2021). Awareness regarding forensic accounting among accounting professionals in India. *Journal of Financial Crime*, 28(3), 455–470. <https://doi.org/10.1108/JFC-06-2020-0120>
17. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
18. Kranacher, M. J., & Riley, R. A. (2022). *Forensic accounting and fraud examination* (3rd ed.). John Wiley & Sons.
19. Kumar, S., Khan, S., & Yadav, R. (2025). A bibliometric analysis of research on forensic accounting from 2006 to 2024. *Social Sciences & Humanities Open*, 12, 101693. <https://doi.org/10.1016/j.ssaho.2025.101693>
20. Lokanan, M. E. (2015). Challenges to the fraud triangle: Questions on its usefulness. *Accounting Forum*, 39(3), 201–224.
21. Modugu, K. P., & Anyaduba, J. O. (2013). Forensic accounting and financial fraud in Nigeria: An empirical approach. *International Journal of Business and Social Science*, 4(7), 281–289.
22. Okoye, E. I., & Gbegi, D. O. (2018). Forensic accounting and fraud detection in financial institutions in Nigeria. *International Journal of Advanced Academic Research*, 4(2), 1–14.
23. Oyedokun, G. E. (2023). Forensic accounting techniques and fraud risk management: A review of evidence. *Journal of Financial Reporting and Accounting*, 21(5), 1046–1063. <https://doi.org/10.1108/JFRA-09-2022-0334>
24. PricewaterhouseCoopers. (2022). *Global economic crime and fraud survey 2022*. PricewaterhouseCoopers International Limited.
25. Rahman, M. A., & Anwar, M. (2014). Role of forensic accounting in enhancing corporate governance. *International Journal of Accounting and Financial Reporting*, 4(2), 1–12.
26. Ramaswamy, V. (2007). New frontiers: Training forensic accountants within the accounting program. *Journal of College Teaching & Learning*, 4(9), 31–38.
27. Reserve Bank of India. (2023). *Annual report 2022–23*. Reserve Bank of India.
28. Rezaee, Z., & Burton, E. J. (1997). Forensic accounting education: Insights from academicians and certified fraud examiner practitioners. *Managerial Auditing Journal*, 12(9), 479–489.
29. Seda, M., & Kramer, B. K. P. (2024). Forensic accounting in the age of artificial intelligence and data analytics. *Accounting Forum*, 48(1), 1–20. <https://doi.org/10.1016/j.accfor.2024.100721>
30. Singleton, T. W., & Singleton, A. J. (2010). *Fraud auditing and forensic accounting* (4th ed.). John Wiley & Sons.
31. Wolfe, D. T., & Hermanson, D. R. (2004). The fraud diamond: Considering the four elements of fraud. *The CPA Journal*, 74(12), 38–42.