

# **Role of Forensic Accounting to Strengthen Corporate Governance : An Empirical Study**

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## **Abstract**

An increasing number of researchers are finding that ‘poor’ CG is a leading factor in dismal performance, manipulated financial reports, and unhappy stakeholders. Undoubtedly, qualified, trained and mature Chartered Forensic Accountants (CFA’s) can prove to be a valuable asset to the corporate sector, and gradually help to improve their CG system. The fundamental objective of this study is to find out “how can we integrate the expertise of the FA to improve the overall CG scenario prevalent in India?”

This is a preliminary investigation of the necessary skills, educational and training requirements for CFA’s to improve CG system. During 2011-12, a questionnaire-based survey was conducted in the NCR of India using a sample size of 120 practicing chartered accountants, accounting academics, and potential users of FA services. Results indicate that potential practitioners, academics and users agree that “critical thinking, written & oral communication, legal knowledge, auditing skills, deductive analysis, investigative flexibility, analytical proficiency and unstructured problem-solving are the most important skills required for the CFAs.” Moreover, we found that all of the skills investigated in this study are ‘potentially’ important for the CFAs, which the educators at the Universities should use as an overall guide while designing their FA curriculum.”

**Keywords:** Forensic accounting, chartered forensic accountants, corporate governance, Asian country, financial reporting, regulatory bodies.

## **1. Introduction**

A corporation is a ‘congregation’ of various stakeholders, namely, customers, employees, investors, vendor-partners, government and society. The relationship between shareholders and corporate managers is fraught with ‘conflicting’ interests that arise due to the ‘separation’ of ownership and control, divergent management and shareholder objectives, and information ‘asymmetry’ between managers and shareholders. Due to these conflicting interests, managers have the incentives and ability to maximize their own utility at the expense of corporate shareholders. As a result, corporate governance (henceforth, CG) structures have evolved that helps in mitigating these “agency” conflicts. Simply stated, CG is the system by which businesses are directed and controlled. It provides a principled process and structure through which the objectives of the corporation, the means of attaining the objectives, and systems of monitoring performance are set. “Indeed, CG is a set of accepted principles by management of the inalienable rights of the shareholders as a true owner of the corporation and of their own role as trustees on behalf of the shareholders. Accountability, transparency, fairness and disclosure are the four “pillars” of the modern corporate regulatory system,” said Bhasin (2016).

The CG system first came into vogue in the 1970s in the United States. Within 25 years, the CG philosophy and system had become the subject of debate world-wide by academics, regulators, executives and investors (Cheffins, 2012). An increasing number of researchers are finding that ‘poor’ CG is a leading factor in “poor performance, manipulated financial reports, and unhappy stakeholders.” In addition, the corporate scandals of the last few years

came as a shock not just because of the enormity of failures, but also because of the discovery that questionable accounting practice was far more insidious and widespread than previously envisioned. Thus, a definite link between the various accounting failures and poor CG is beginning to emerge. For instance, Badawi and Fitzsimon (2003) have very aptly observed: “Adelphia was given a very low 24 percent rating by Institutional Shareholder Services on its CG score. In Europe, Parmalat and Royal Ahold were ranked in the bottom quartile of companies in the index provided by Governance Metrics International.” Similarly, the Corporate Library had issued early failure warnings in respect of both WorldCom and Enron. Thus, an increasing number of researchers now are finding that poor CG is a leading factor in poor performance, manipulated financial reports, and unhappy stakeholders. Corporations and regulatory bodies are currently trying to analyze and correct any existing defects in their reporting system. The recent financial crisis has been a trigger for regulators, policy-makers, investors, and others to consider what improvements could be made to the corporate reporting system.

“The recent accounting scandals have induced a crisis of confidence in financial reporting practice and effectiveness of CG mechanisms. No doubt, fraudulent financial reporting can have significant consequences for the ‘organization’ and its ‘stakeholders,’ as well as, for ‘public-confidence’ in capital markets,” stated Bhasin (2013). For instance, according to COSO Report (2010), “Periodic high-profile cases of fraudulent financial reporting raise concerns about the credibility of the US financial reporting process and call into question the roles of management, auditors, regulators, and analysts, among others.” According to a study of organizations world-wide, 30 percent of companies were victims of an economic crime (fraud) in the last year (Murphy and Dacin, 2011). From Enron, WorldCom, Madoff, and Satyam, it appears that corporate accounting fraud is a major problem that is increasing, both in its frequency and severity. According to The Association of Certified Fraud Examiners’ (ACFE, 2012) ‘Report to the Nations,’ “the cost of fraud to the US organizations is extensive—5 percent of annual revenues, despite increased emphasis on anti-fraud controls and recent legislation to combat fraud.” Indeed, the ACFE survey found that whistle-blowing is the single most common method of fraud detection (Robinson and Robertson, 2012). Although it is generally accepted that the Sarbanes-Oxley (SOX) Act of 2002 has improved CG and decreased the incidence of fraud, recent studies and surveys indicate that investors and management continue to have concerns about financial statement fraud, as summarized in Table 1.

**Table 1: Magnitude of Losses Suffered due to Frauds: Overview of Global Scenario**

Reporting Authority	Main Findings
The ACFE “Report to the Nations on Occupational Fraud and Abuse” (2010)	The Association of Certified Fraud Examiners’ (ACFE) found that financial statement fraud, while representing less than 5 percent of the cases of fraud in its report, was by far the most costly, with a median loss of \$1.7 million per incident. Survey participants estimated that the typical organization loses 5 percent of its revenues to fraud each year. Applied to the 2011 Gross World Product, this figure translates to a potential projected annual fraud loss of more than \$3.5 trillion. The median loss caused by the occupational fraud cases in our study was \$140,000. More than one-fifth of these cases caused losses of at least \$1 million. The frauds reported to us lasted a median of 18 months before being detected.
The COSO Fraud Report (2010)	The Committee of Sponsoring Organizations of the Treadway Commission analyzed 347 frauds investigated by the U.S. Securities and Exchange Commission (SEC) from 1998 to 2007 and found that the median dollar amount of each instance of fraud had increased three-times from the level in a similar 1999 study, from a median of \$4.1 million in the 1999 study to \$12 million. In addition, the median-size of the company involved in fraudulent financial reporting increased approximately six-fold, from \$16 million to \$93 million in total assets, and from \$13 million to \$72 million in revenues.
The KPMG Survey (2009)	A Survey of 204 executives of U.S. companies with annual revenues of \$250 million or more found that 65 percent of the respondents considered fraud to be a significant risk to their organizations in the next year, and more than one-third of those identified financial reporting fraud as one of the highest risks.
Deloitte Forensic Center Webcast	Fifty-six percent of the approximately 2,100 business professionals surveyed in a webcast about reducing fraud risk predicted that more financial statement fraud would be uncovered in 2010 and 2011, as compared to the previous three years. Almost half of those surveyed (46 percent) pointed to the recession as the reason for this increase.
National Fraud Authority (U.K.), Annual Fraud Indicator	The scale of fraud losses in 2012, against all victims in the U.K., is in the region of £73 billion per annum. In 2006, 2010 and 2011, it was £13, 30 and 38 billions, respectively. The 2012 estimate is significantly greater than the previous figures

(2012)	because it includes new and improved estimates in a number of areas, in particular against the private sector. Fraud harms all areas of the UK economy.
The Ernst & Young’s “India Fraud Indicator report” (2012)	The losses suffered due to fraud amount to INR 66 billion. Delhi witnessed the largest number of fraud cases and suffered the highest aggregate losses by fraud (as compared to the rest of the country) in 2011–12. The financial-services sector was the worst hit, with more than 63 percent of the total fraud cases reported in 2011–12, followed by technology and transportation. In the financial-services sector, banking was the major victim with 84 percent of the total number of reported fraud cases. According to the data compiled by the Reserve Bank of India (RBI), the money lost by banks due to scams and fraud has doubled in the past four years. Losses incurred by banks due to fraud increased by 88 percent in 2010-11 to exceed INR 37.9 billion (more than INR 20.1 billion in 2009–10).

Source: Compiled by the author from various publish reports.

During the last few decades, there have been numerous financial frauds and accounting scandals, which were milestones with historical significance. “The media had reported scandals and bankruptcies in companies both from the ‘developed’ and ‘developing’ countries. The corporate collapses of recent times, culminating with massive collapses has suggested that there are major systemic problems facing the way in which corporations and CG systems operate,” reported Bhasin (2012). The recent high-profile accounting scandals involving major companies worldwide (such as, Enron, WorldCom, Parmalat, and most recently, India’s Satyam), along with recent outcries over the excessive remuneration paid to some CEOs have raised questions about the relationship between ethical leadership, financial incentives and financial misreporting. According to Bhasin (2011), “Unfortunately, the corporate collapses of recent times have suggested that there are major systemic problems facing the way in which corporations and CG systems operate across the globe. On a number of occasions, over the past few decades, major public companies have experienced financial reporting frauds, resulting in sudden turmoil in the US capital markets, a loss of shareholder value, and, in some cases, the bankruptcy of the company itself.” During the recent series of corporate fraudulent financial reporting incidents in the US, almost all cases of foreign corporate accounting frauds were committed by the entities that conducted their businesses in more than one country, and most of these entities are also listed on U.S. stock exchanges. The list of corporate financial accounting scandals in the US is very extensive, and each one was the result of one or more “creative accounting” irregularities.

As pointed out by Black (2010), “Financial statement fraud was a contributing factor to the recent financial crisis and it threatened the efficiency, liquidity and safety of both debt and capital markets.” Furthermore, it has very significantly increased ‘uncertainty’ and ‘volatility’ in financial markets, shaking ‘investor’ confidence worldwide. It also reduces the creditability of financial information that investors use in their investment decisions (Rezaee and Kedia, 2012). When taking into account the loss of investor confidence, as well as, reputational damage and potential fines and criminal actions, it is clear why financial misstatements should be every manager’s worst fraud-related nightmare. As Bhasin (2011) observed, “Undoubtedly, fraud is a world-wide phenomenon that affects all continents and all sectors of the economy. From time-to-time, corporations and regulatory bodies have tried to analyze and correct any existing defects, if any, in their reporting systems. In addition, discussion on the relevance of forensic accounting in detecting accounting scandals has emerged in recent years.” All these cases imply that the corporations have failed to supply accurate information to their investors, and to provide appropriate disclosures of any transactions that would impact their financial position and operating results. “The recent accounting scandals have induced a crisis of confidence in financial reporting practice and effectiveness of CG mechanisms. No doubt, recent corporate accounting scandals and the resultant outcry for transparency and honesty in reporting have given rise to two disparate yet logical outcomes. First, forensic accounting skills have become crucial in untangling the complicated accounting maneuvers that have obfuscated financial statements. Second, public demand for change and subsequent regulatory action has transformed CG scenario,” stated Bhasin (2007). Therefore, more and more company officers and directors are under ethical and legal scrutiny. In fact, both these trends have the common goal of addressing the investors’ concerns about the transparent financial reporting system. However, the failure of the corporate communication structure has made the financial community realize that there is a great need for skilled professionals that can identify, expose, and prevent structural weaknesses in three key areas: poor CG, flawed internal controls, and fraudulent financial statements. Forensic accounting skills, therefore, are becoming increasingly relied upon within a corporate reporting system that emphasizes its accountability and responsibility to stakeholders.

The wave of financial scandals at the turn of the 21st century elevated the awareness of fraud and the auditor’s responsibilities for detecting it. Unfortunately, the frequency of financial statement fraud has not seemed to decline

since the passage of the Sarbanes-Oxley Act in July 2002 (Hogan et al., 2008). The high-incidence of fraud is a serious concern for investors as fraudulent financial reports can have a substantial negative impact on a company's existence, as well as, the market value. For instance, the lost market capitalization of 30 high-profile financial scandals caused by fraud from 1997 to 2004 is more than \$900 billion, which represents a loss of 77 percent of market value for these firms, while recognizing that the initial market values were likely inflated as a result of the financial statement fraud. Bhasin (2012b) for example, described the prevalent reporting environment as: "Despite intense efforts to stamp out corruption, misappropriation of assets, and fraudulent financial reporting, it appears that fraud in its various forms is a problem that is increasing in frequency and severity. In general, it can be claimed that the above accounting scandal occurred because of integrated factors, such as, lack of auditor independence, weak law-enforcement, dishonest management, poor internal-control and inability of CG mechanisms in monitoring top-management behaviors."

The SOX 2002 imposes potentially serious penalties on firm executives with fines of up to \$5 million and/or imprisonment up to 20 years. At the same time, this legislation requires that these firms tighten their internal controls over financial reporting (Barra, 2010). Unfortunately, it is also true that most frauds are perpetrated by people in positions of trust in the accounting, finance, and IT functions (Carpenter et al., 2011). Consequently, there should be alternative tools to detect the possibility of financial frauds. "Forensic accounting can be seen as one of such tools. An understanding of effective fraud and forensic accounting techniques can assist forensic accountants (henceforth, CFA's) in identifying illegal activity and discovering and preserving evidence," says Bhasin (2008). According to Christensen et al., (2005), "Some regulators have apparently noticed the need for forensic accounting." For example, the Sarbanes-Oxley Act (SOX), the Statement on Auditing Standards-99 (SAS 99), and the Public Company Accounting Oversight Board (PCAOB) have not removed the pressures on CFOs to manipulate accounting statements. The PCAOB recommends that "an auditor should perform, at least, one walk-through for each major class of transactions." However, SAS 99 does not require the use of forensic specialists but does recommend brainstorming, increased professional skepticism, and unpredictable audit tests. The PCAOB has raised concerns about auditors' fraud judgments and the quality of their brainstorming sessions (Chariri, 2009; Brazel, 2010).

Recently, Bhasin (2016c) reported, "India has been amongst the fastest growing economies in the world in the last decade. In India, the question of CG has assumed importance mainly in the wake of economic liberalization, deregulation of industry and business, as also the demand for a new corporate ethos and stricter compliance with the legislation. Periodic high-profile cases of fraudulent and creative financial reporting in India have raised concerns about the credibility of the financial reporting process, and called into question the roles of management, auditors, regulators, and analysts, among others." The need for improving "CG and ethical culture across public and private sector companies has never been felt as acutely as is being felt now." This resounding sentiment is echoed in the 'KPMG India Fraud Survey (2012)' as: "The last few years have seen increased number of frauds reported in India, as well as, globally. From Satyam, Adidas-Reebok, Common Wealth Games and OnMobile in India to LIBOR manipulation, securities trading, over-riding international sanctions on the global front, we have seen some of the more sophisticated and large frauds coming to light." India is a 'developing' economy where corporate-sector is contributing a major part in national income. "Most of the Indian corporations are spreading their wings all over the world where they get lots of opportunities to go for creative accounting since all countries have different accounting systems which creates ambiguity in investor's mind," said Bhasin (2016a). Thus, the number of accounting scandals is increasing in India. Table 2 highlights some 'glaring' examples of Indian companies practicing creative accounting from 1996-97 to 2008-09.

**Table 2:** Creative Accounting and Fraudulent Practices followed by the Indian Companies

Company	Years	Nature of Fraud Methodology
WIPRO Ltd.	1996-97 to 1999-2000	Transfer of land to stock creating capital reserve with the fair value and using it to neutralize the effect on profit of reduction of land value.
Bombay Dyeing & Manufacturing Company Limited	2003-04 and 2004-05	Creating provisions for possible loss on firm purchase contract and subsequent write-back of such provision thereby converting operating losses into operating profit.
Larsen & Toubro Limited	1999-2000 and 2001-02	Income recognition through transfer of loan liabilities at a lower consideration.
Apollo Tyres Ltd.	2004-05	Debiting profit and loss account with additional excise duty payable to the government and transferring equivalent amount from general reserve to neutralize the effect.
Asian Electronics	2004-05	Impairment of assets: treatment of deferred tax.

Ltd.		
Oil and Natural Gas Commission, Mukund Ltd., Torrent Power ACE Ltd. and Tata Motors Ltd.	2004-05	Capitalization of interest as well as other intangible assets to show fixed assets value upward and understating revenue expenses.
Hindustan Zinc Limited	2003-04 and 2004-05	Reclassifying assets in the balance sheet.
Tata Motors, Bombay Dyeing, Mahindra and Himachal Futuristic	2001-02	Direct write-offs from reserves.
Satyam Computers Services Limited	2008-09	Fraudulently incorporated a non-existent cash component by inflating the bank balances, fudging bills, accounts receivables, interest, and liabilities.

(Source: Jones, M. (2011) 'Creative accounting, fraud and international accounting standards,' John Wiley & Sons, London, page 235)

### 1.1. Poor Corporate Governance and Problems within Reporting Systems

The interests of investors and other stakeholders are usually protected by a three-tier security system. "At the top-level is the company's Corporate Governance Code, which is directed toward enforcing company policies, achieving company objectives, monitoring company performance, and ensuring adequate disclosure of the company's activities" said Bhasin (2009). Similarly, Bhasin (2010) observed: "At the other end are the reporting system, which is regulated by various public and private institutions, such as, the Securities and Exchange Commission (SEC), the Public Company Accounting Oversight Board (PCAOB), and Financial Accounting Standards Board (FASB), Securities and Exchange Board of India (SEBI), etc. These regulatory agencies require public companies to follow various accounting and disclosure standards, such as, Generally Accepted Accounting Principles (GAAP), International Financial Reporting Standards (IFRS) and their auditors to audit as per Statement on Auditing Standards (SAS) like independence, ethical, and quality control standards." "Linking the two extremes, however, is a company's system of internal controls, which provides reasonable 'assurance' on the effectiveness and efficiency of operations, the 'reliability' of financial reporting, and 'compliance' with applicable laws and regulations. This system, however, seems to have been inadequate in many companies," pointed out Bhasin (2011b). As corporations scramble to realign their interests with those of their stakeholders, according to Ramaswamy (2005), the following three main areas of weaknesses are emerging:

**(a) Lack of a well-developed and Implemented Policy of Corporate Governance:** The primary goal of CG is to enhance the value of a company through ethical behavior, espousing a policy of openness and fairness and ensuring informed decision-making throughout the company. As Bhasin (2015) remarked, "Unfortunately, the centre of corporate ethics (viz., board of directors) in certain cases became a magnet for unethical practices. Blinded by the glare of a rapidly growing stock market, pressured by stockholders for ever-increasing returns, and led by executives seeking to maximize bonuses based on stock performance, certain boards of directors and audit committees failed to constrain 'creative' accounting to keep up their earnings numbers." It must have seemed to some directors that the investing public really did not care about issues (such as executive compensation) as long as they made their double-digit returns. Closed, entrenched boards magnified the problem as directors rewarded themselves for "quality" performance until, finally, the bubble burst.

**(b) Lack of Honesty and Transparency in Reporting:** The financial reporting standards in the U.S. are the most highly specified in the world. But falling stock markets, corporate failures, dubious accounting practices, abuses of corporate power, and criminal investigations indicate that the system is under stress. Some corporations have grown dramatically through acquisitions funded by inflated stock prices and promises of an even brighter future. In others, it seems as if the checks and balances that should protect shareholder interests were pushed to the side, driven by pursuit of the bottom line. "It has traditionally been an auditor's responsibility to express an opinion on whether

financial statements are presented according to GAAP/IFRS. Contrary to the expectations of many in the public, the auditor does not have an absolute duty to uncover fraud, although Statement on Auditing Standard (SAS-99 2002) prescribes steps for auditors to take in order to ensure that they have planned and implemented their audits in a way that responsibly addresses fraud considerations,” stated Bhasin (2012a).

**(c) An Inefficient and Ineffective System of Internal Control:** A good system of internal control will usually help a company to achieve its objectives of profitability and minimize loss of resources. Internal control cannot, however, change an inherently weak management system, or provide absolute assurance as to the reliability of financial reporting. Companies are now facing increasing levels of legal regulatory, and economic reporting requirements, because of the Sarbanes-Oxley Act of 2002 (SOA). Companies are spending millions of dollars examining their existing systems, and adopting or improving their CG and internal controls to meet the standards set by SOA sections 403 and 404. Undoubtedly, there will be lot of growth opportunities for various professionals to contribute to improve the corporate world. “In today’s rapidly changing business landscape, it is now necessary for accountants and companies to step away from the ‘traditional’ approach that emphasized mere compliance with the GAAP/IFRS and the annual ritual involving check-box of items around legal requirements. Instead, they should focus on the study and investigation of the traits and follow the right spirit of various laws so as to improve performance, underlying corporate and management behavior in the long-term. This could be the key to preventing future meltdowns, and to guaranteeing the two important qualities of corporate reporting, namely, transparency and honesty,” said Bhasin (2006a).

## **1.2. Forensic Accounting Provides The Connecting Link**

What the use of fingerprints was to the 19th century, and DNA analysis was to the 20th century, so financial information and forensic accounting has come to be one of today’s most powerful investigative and intelligence tools available. As Bhasin (2007) mentioned, “Worldwide, we consider Sherlock Holmes to be the first Forensic Accountant. However, the contribution of some historic characters in India cannot be ignored. In India, ‘Kautilya’ was the first person to mention the famous forty ways of embezzlement in his book ‘Artashastra’ during the ancient times. He was the first economist, who openly recognized the need of the FA’s. Similarly, ‘Birbal’ was the scholar in the time of ‘King Akbar’. He used various ‘tricks’ to investigate various types of crimes. Some of his stories gave the fraud examiner a brief idea about the litmus test of investigation.”

The definition of Forensic Accounting (henceforth, FA) is changing in response to the growing needs of corporations. Bologna and Lindquist (1995) had defined FA as “the application of financial skills, and an investigative mentality to unresolved issues, conducted within the context of rules of evidence. As an emerging discipline, it encompasses financial expertise, fraud knowledge, and a sound knowledge and understanding of business reality and the working of the legal system.” According to the definition developed by the AICPA’s Forensic and Litigation Services Committee (2011), “forensic accounting may involve the application of special skills in accounting, auditing, finance, quantitative methods, the law, and research. It also requires investigative skills to collect, analyze, and evaluate financial evidence, as well as the ability to interpret and communicate findings. FA encompasses litigation support, investigation, and dispute resolution and, therefore, is the intersection between accounting, investigation and the law.”

Forensic accounting (FA) includes the use of accounting, auditing and investigative skills to assist in legal matters. According to Golden (2011), “Forensic accounting consists of two major components: litigation services that recognize the role of an accountant as an expert consultant, and investigative services that use a forensic accountant’s skills and may require possible courtroom testimony.” This implies that the forensic accountant should be skilled not only in financial accounting, but also in internal control systems, the law, other institutional requirements, investigative proficiency, and interpersonal skills. “Corporations can rely on these skills for developing a consistent system of CG, disseminating such information within and outside the company, ensuring that governance policies and objectives are interwoven into the internal control system, setting up fraud prevention systems, and investigating any existing fraud,” stressed Bhasin (2010a).

As Bhasin (2015a) stated, “There is no doubt that qualified, trained and mature accounting professionals, possessing forensic skills, can prove to be a valuable asset to the corporate-sector, and gradually help to improve their CG systems.” Initially, Chartered Forensic Accountants (henceforth, CFA’s) were used by government agencies (such as,

the CIA, the FBI, and the IRS), to uncover and investigate leading frauds. They became financial detectives; independent experts employed by management to uncover fraudulent financial reporting and misappropriated. “In the current reporting environment, CFA’s are in great demand for their accounting, auditing, legal, and investigative skills. They can play a vital role in coordinating company efforts to achieve a cohesive policy of ethical behavior within an organization. CFA’s are expected to be ‘specialist’ in accounting and financial systems. Yet, as companies continue to grow in size and complexity, uncovering fraud requires FA’s to become ‘proficient’ in an ever-increasing number of professional ‘core’ skills and competencies,” reported Bhasin (2016d). According to Ramaswamy (2005), some of the broad areas of useful expertise for CFA’s are as follows:

- An in-depth knowledge of financial statements and the ability to critically analyze them. These skills help FA’s to uncover abnormal patterns in accounting information and recognize their source;
- A thorough understanding of fraud schemes, including but not limited to asset misappropriations, money laundering, bribery, and corruption;
- The ability to comprehend the internal control systems of corporations, and to set up a control system that assesses risks, achieves management objectives, inform employees of their control responsibilities, and monitors the quality of the program so that corrections and changes can be made;
- Proficiency in computer and knowledge of network systems. These skills help FA’s to conduct investigations in the area of e-banking and computerized accounting systems;
- Knowledge of psychology in order to understand the impulses behind criminal behavior and to set up fraud prevention programs that motivate and encourage employees;
- Interpersonal and communication skills, which aid in disseminating information about the company’s ethical policies and help FA’s to conduct interviews and obtain crucially needed information;
- Thorough knowledge of company’s governance policies and the laws that regulate these policies; and
- Command of criminal and civil law, as well as, of the legal system and court procedures.

To conclude, Bhasin (2016b) stated, “With this background, the FA is distinctly positioned to explore the design of CG systems, the role of the financial reporting system in corporate governance, the effect of the governance board on employee and managerial behavior, and the efficacy of the internal control system.” So what ‘personal’ skills are required to become a FA? “In addition to the ‘specialized’ knowledge about the techniques of finding out the frauds, one needs patience and analytical mindset. One has to look beyond the numbers and grasp the substance of the situation. It is basically the work of the intelligent accountants. There is a need for the same basic accounting skills that it takes to become a good auditor plus the ability to pay attention to the smallest detail, analyze data thoroughly, think creatively, possess common business sense, be proficient with a computer, and have excellent communication skills,” said Bhasin (2015a). A “sixth” sense that can be used to reconstruct details of past accounting transactions is also beneficial. A photographic memory helps when trying to visualize and reconstruct these past events. The forensic accountant also needs the ability to maintain his composure when detailing these events on the witness stand. Finally, a forensic accountant should be insensitive to personal attacks on his professional credibility. According to Wells (2011), “A fraud accountant (forensic accountant are sometimes called) should also observe and listen carefully. By this, you can improve your ability to detect lies whether they involve fraud or not. This is so because “not all liars are fraudsters, but all fraudsters are liars.”

In addition to these personal characteristics, accountants must meet several additional requirements to gain the position of CFA’s, say a Certification, acknowledging his competence. Further, Bhasin (2008) asserted as “One can learn forensic accounting (FA) by obtaining a diploma given by the Association of Certified Fraud Examiners (ACFE, see [www.acfe.org](http://www.acfe.org)) in the US. The Indian chapter of ACFE offers the course based on the white-collared crimes prevalent in US, based on their laws. However, it is most unfortunate that till now there is no formal body that provides formal education of the frauds in India.” We can follow the good example shown by the Canada. The Canadian Institute of Chartered Accountants (CICA) had taken initiative in this direction and issued guidelines and pronouncements regarding investigative accounting. Besides the formal certificate, one can deepen his knowledge and sharpen his skills in forensic accounting by undergoing training under experienced forensic accountant, participating in various international conferences, reading relevant journals, books and other literature on forensic accounting.

To combat the frauds effectively one needs the active support of government at every stage. There are three-four such agencies in India, which are dedicated to the mission of combating frauds. Serious Fraud Office looks into violations of Income Tax, FEMA, RBI Act, etc.; CBI (Economic Office Wing) deals with big financial frauds; Central Vigilance Commission deals with corruption are the major government agencies that combat frauds of

different types. Unfortunately, there is no specialized education provided by any of the Universities in the country. “Fraud Today is the next generation of the fraud examinations in India. They plan to develop and market software, and develop resources for various world-class universities. Recently, TCS has also come out with software to combat money laundering and Subex Systems have designed software to combat the telecom frauds. Thus, combating the frauds with software has started picking up in India, with few big companies like ACL and IDEA, joining the race,” said Bhasin (2016d).

### 1.3. Integration of Forensic Accountanting and Corporate Governance

Companies need a centralized program and an established system to measure and monitor internal controls effectiveness and the alignment between CG, internal control, and external reporting activities. Many are setting up “Governance Officers or Governance Committees” to meet the demand for corporate integrity. The governance committee must be active in every area of corporate activity to ensure that the company is operating as a synergistic whole. As part of the CG Committee, as pointed out by Ramaswamy (2005), FA’s can make a significant contribution in each of the following areas:

- **Corporate Governance:** “With a strong background knowledge of the legal and institutional requirements of CG, CFA’s can help to formulate and establish a comprehensive governance policy that: ensures an appropriate mix of management and independent directors on the board; sets out the appropriate responsibilities of the board and the audit committees; has a fair allocation of power between owners, management, and the board; and ensures there is a company code of ethics for employees and management,” said Bhasin (2008). Undoubtedly, ethical behavior is reinforced when top management shows, through its own actions, that questionable behavior will not be tolerated.
- **Preventing Fraud:** CFA’s understand that the best way to prevent fraud is to establish an efficient control system that encompasses: a good control environment determined by management’s philosophy of ethical behavior and strong CG policies; a superior accounting system that ensures the proper recording, classification, and reporting of all relevant transactions; and strong procedural controls that provide for safeguarding of assets, proper authorizations, audit mechanisms, and proper documentation.
- **Creating a Positive Work Environment:** A good fraud prevention program also accompanies a positive work environment where highly motivated employees are not tempted to abuse their responsibilities. “CFA’s can ensure that CG policies are formulated to avoid high-risk environments where management is apathetic, pay is inadequate or too high, there is a serious lack of proper training and compliance, or there are unreasonable profit and budget goals,” stated Bhasin (2007). It is also necessary to have well-defined hiring policies that result in honest, well-qualified employees.
- **Establishing Effective Lines of Communication:** Communication is a key element in ensuring that employees and other stakeholders are aware of their rights and responsibilities. Committee of Sponsoring Organizations of the Treadway Commission (COSO) has very categorically stated: “Effective communication must flow not just from the top to lower levels, but also across employee lines of responsibility.” As Bhasin and Shaikh (2011c) stated, “CFA’s can support the dissemination of the required information about governance and ethics policies to interested parties within and outside the organization. Adequate reporting is also necessary to meet the compliance requirements of the SEC and the stock markets.”
- **Vigilant Oversight:** Any system needs to be constantly monitored and evaluated to make sure that it is functioning well. Indeed, CFA’s can monitor not only compliance at the top levels of corporate power, but also management procedures and employee activity. Information gathered as a result of the monitoring can be used to readjust and reformulate governance, ethics, and control policies.
- **Establishing Consequences:** Fraud deterrence should also include an expectation of punishment. “The FA’s can help in creating policies that clearly state the company’s intent to take action against any criminal activities, and that such action will apply to all levels of employees,” stressed Bhasin (2013a).
- **Fraud Investigations:** CFA’s can ensure the integrity of financial statements by actively investigating for fraud, identifying areas of risk and associated fraud symptoms, pursuing each anomaly aggressively, and delving into the minute’s details of accounting and financial anomalies. “By helping companies to prevent and detect fraud, therefore, the forensic accountant’s role can easily evolve into a key component in the CG system,” said Bhasin (2013b).



All of the larger accounting firms, as well as, many medium-sized and boutique firms have 'specialist' forensic accounting (FA) departments. Within these groups, there may be further sub-specializations: some FA's may, for example, just specialize in insurance claims, personal injury claims, fraud detection, construction, or royalty audits. Nearly 40 per cent of the top-100 US accounting firms are expanding their forensic and fraud services. As Bhasini (2013c) remarked, "If this data is an indicator of Indian scenario, then the day is not far away when forensic accounting practice will contribute significantly to the total revenue of the Indian CA firms. In short, these services are in great demand and rendered at a premium in current context of flourishing business and rising instances of frauds and litigations."

## **2. Literature Review**

The literature on forensic accounting (FA) and its adoption in accounting and finance curriculum is rather limited and they are US centric. However, my objective in this section is to highlight the core findings in the few relevant current studies rather than an extensive examination of tangential issues to forensic accounting and its adoption in accounting and finance curriculum. In fact, related literatures on the subject matter are briefly reviewed with a view to showing vividly the gap in knowledge. Many researchers have indicated that "technical skills are regarded as implicit in the skills base of a person entering an accounting career, but that it is a range of broader personal characteristics that facilitate career success and make accounting graduates more valuable to employers." Furthermore, long-back Lee and Blaszczyński (1999) suggested that "employers expected accounting students to learn a multitude of skills, not simply how to generate and use accounting information. These skills include being able to communicate, work in a group environment, solve real world problems, and use computer and Internet tools." Aderibigbe (2000) in his study suggested that "FA's requires high-level of competence, integrity and honesty to perform his job." Moreover, he is of the opinion that FA's must be thoroughly trained, must prove his competence by passing all relevant examinations to become a member of a recognized accountancy body, should always be outstanding in terms of integrity, honesty and probity, and must maintain a professional attitude in the performance of his responsibilities." Similarly, Harris and Brown (2000) have identified "specialized skills and technical abilities of FA's." FA's are usually familiar with criminal and civil law, and understands the courtroom procedures and expectations. These researchers also stressed investigative skills, including theories, methods, and patterns of fraud abuse. FA's thinks creatively to consider and understand the tactics that a fraud perpetrator may use to commit and conceal fraudulent acts. Additionally, they need to clearly and concisely communicate findings to various parties, including those with less knowledge of accounting and auditing.

In 2002, Rezaee examined a sample of under-graduate and graduate accounting students, and the results indicated that "the students believed that forensic accounting is a viable career option but is not getting the proper attention in Colleges and Universities." However, Grippo and Ibe (2003) illustrated that "the most important skills of FA's come from experience in accounting and auditing, taxation, business operations, management, internal controls, interpersonal relationships, and communication." Furthermore, Akers and Porter (2003) advocated that "the AICPA and the Institute of Management Accountants recognize emotional intelligence skills as critical for the success of the accounting profession." Similarly, Messmer (2004) stated that "successful FA's must have analytical abilities, strong written and verbal communication skills, a creative mindset, and business acumen. They must be able to interview and elicit information from potentially uncooperative people and possess a strong amount of skepticism." The challenge of delivering graduates with a more extensive and special skill sets is highlighted in a recent 'European' study (Hassall et al, 2005). Their research points to similar employer demands for non-technical skills, but reported at the same time that employers were unsympathetic with claims from Universities that they had limited capacity to deliver on these greater demands. Consequently, a special training process can be fashioned out to give interested accounting graduates an opportunity to acquire these special skills that will make them specialists.

Ramaswamy (2005) believed that "CFA's are distinctively positioned to be able to uncover financial deceptions," his prominent skills being an in-depth knowledge of financial statements, the ability to critically analyze them, and a thorough understanding of fraud schemes. He also believed that FA's should have the ability to comprehend the internal-control systems of corporations and be able to assess their risks. The knowledge of psychology helps FA's to understand the impulses behind criminal behavior that motivate and encourage financial deception. Also, interpersonal and communication skills that aid in disseminating information about the company's ethics and an understanding of criminal and civil law and of the legal system and court procedures are skills that aid FA's. Moreover, Rezaee, Crumbley and Elmore (2006) surveyed opinions of practitioners and academics regarding the importance, relevance, and delivery of forensic accounting education. Their results indicated that "the demand for and the interest in forensic accounting will continue to increase." Their study further shows that both practitioners

and academics viewed accounting education as relevant and beneficial to accounting students. However, the groups differed in opinions regarding topical coverage of forensic accounting. In searching for the skill area of FA's, DiGabriele (2008, 2009), in a US study found that "both academics and practitioners agreed that critical thinking, unstructured problem-solving, investigative flexibility, analytical proficiency, and legal knowledge are important and core skills for FA's."

Ahadiat (2010) conducted a study in which he asked respondents to rate the skills expected of an accountant and the auditor. The results from his study shows that "accounting curricula across the United States were revised to include instructions aimed at improving students' knowledge, skills, and abilities, which would go beyond their technical knowledge. These skills included, communication skills, analytical skills, presentation skills, team orientation, critical thinking, among others." However, a study conducted by Sugahara and Coman (2010) attempted to compare the differences in 'Japanese' accounting faculty and practitioners' perceived importance of generic skills for CPAs in order to assess the CPA Law Amendment of 2003. It was found that "Japanese accounting faculty and practitioners commonly perceived the information skill type as the most important, and the behavioral skill type as the second most important, but they tended to regard the interpersonal skill type as less important." Several implications are also raised from the findings to improve the quality education of Japanese CPAs and also to facilitate the international harmonization of accounting education. Studies by scholars, such as Davis, Farrell and Ogilby (2010), and Ekeigwe (2011), highlighted that "analytical skill remains the foremost trait that FA's are expected to possess." Their results also revealed that the skill sets of FA's are eclectic. These include general civilization, communication, accounting, business, auditing, technology, psychology, criminology, courtroom behavior, and meta-thinking skills are critical to the effectiveness of a FA. Similarly, in a study conducted by Chukwunedu and Okoye (2011) revealed that "forensic accounting techniques injected in an audit and given cost/benefit considerations is capable of increasing the ability of the auditor to detect fraud and thus help bridge the audit expectation gap. This finding has implications for both accounting education and accounting practice.

The Institute of Chartered Accountants of India (ICAI) has taken the challenge of training some Chartered Accountants to become Certified Forensic Accountants (CFAs). It is providing a "Certificate Course on Forensic Accounting and Fraud Detection using IT and CAATs," with 100 hours spread over 6 weekends. This challenge is yet to be embraced by most of the Indian Universities providing higher education. At present, very few academic institutions are offering a full course on forensic accounting, either at undergraduate or graduate level, despite the high need for this category of professionals. For example, India Forensic (Pune) is one of the few, which conducts a Certificate course in Bank Forensic Accounting (CBFA), Certified Anti Money Laundering Expert (CAME), and Certified Forensic Accounting Professional (CFAP). The Institute of Chartered Financial Analysts of India University (Tripura) also offers a "Postgraduate Diploma in Forensic Accounting." However, some colleges/universities are providing "Forensic Science" courses in India. "Most probably, this is on account of lack of information about universally accepted skill-mix of FA's. Both academics and professionals should agree on the required skill-mix of CFA's, which could be embedded in their course structure. This scenario highlights a gap between forensic accounting practice and education in the country," observed Bhasin (2013c). As academic institutions contemplate the addition of fraud and forensic accounting into their curricula, there is a need for an in-depth examination of the knowledge, skills and abilities necessary for individuals to function in these fields. In spite of the fact that forensic accounting is offered by some professional accountancy bodies and Universities in the United States, Canada, United Kingdom etc., controversies are still looming the academic environment on the best skills needed for this crucial function. The international academic community has tried to address the question: who are the right people to suggest forensic accounting skills?

It is apparent that the academic literature has identified some of the forensic accounting courses and course contents, whereas the practitioner literature suggests core skills necessary in practice. However, the literature has not yet empirically identified the views of three major stakeholders—accounting academics, forensic accounting practitioners, and users of forensic accounting services—regarding which skills are important for FA's. All the three stakeholders will be significant in shaping the future of forensic accounting. An attempt is made here "to uncover the basic skills needed for traditional accounting and auditing services, and the ones required for specialized services in the areas of fraud investigations, forensic accounting and forensic auditing."

The 'primary' objective of this study is "to assess the necessary skills required by forensic accountants (FA's) in India and make a case for the development of a standardized curriculum for the study of forensic accounting as a course in the Universities." However, three 'specific' objectives are:

1. To determine the extent to which financial and economic crimes have impacted on the Indian economy and the effectiveness of forensic accounting functions;

2. To establish the need for incorporating forensic accounting courses in the academic curriculum of Indian Universities; and
3. To determine whether the necessary skills required by the FA's in the developed countries significantly differs from the expectations of clients and accountants in India.

### **3. Research Methods**

During 2011-12, we conducted a survey of three States in the National Capital Region (NCR viz., Delhi, Gurgaon and Ghaziabad) of India using a random sample of 120 practicing accountants, accounting academics, and users/potential users of forensic accounting services. This study classified lawyers and anti-graft agencies personnel as the primary users of forensic accounting services. The research instrument (or questionnaire) was divided into three sections, and it was sent out and retrieved as follows: 120 questionnaires were given hand-to-hand by trained assistants to members of the stakeholders' groups. 40 for each group of professional accountants, accounting academics and lawyers/anti-graft agencies personnel. However, only 70 questionnaires were finally retrieved as per schedule, with 65 found to be reasonably complete in most respects.

We prepared and pre-tested our survey instrument before sending it out to all our respondents. The questionnaire was structured into three sections. In Section A, first-six questions attempted to map the biographical profile of the respondents, such as, primary profession, gender, education, experience, professional qualification/license, and involvement with forensic accounting services. Here, one question specifically asked the participants to "identify, at least, five core skills (out of 19 skill options) that CFA's needs to possess, and rank them on a 5-point Likert-type scale, ranging from 4 (strongly agree) to 0 (strongly disagree)." Similarly, in Section B, 9 skill-related broad statements were presented being the important skills of CFA's. As suggested by DiGabrielle in 2008, "The 9 skills required for the CFA's to be rated were: deductive analysis, critical thinking, unstructured problem-solving, investigative flexibility, analytical proficiency, oral and written communication, specific legal knowledge and composure. You are expected to answer them on a 5-point Likert-type scale, ranging from ranging from 4 (strongly agree), 3 (Agree), 2 (Neutral), 1 (disagree) to 0 (strongly disagree)." Moreover, in Section C, we asked the respondents to answer some questions regarding basic education and career-paths of CFA's, their likely demand in the future—next 5, 10 and 20 years, and need to know computer-based forensic techniques and software tools." The scales were anchored at each end with the descriptors "extremely unimportant" to "extremely important," respectively. The responses from the above stated aspects of the survey instrument enabled us to assess participants views on the 'core' skills of CFA's, the extent of differences in views about these skills between current and previous research, and general trends about FA's education, career-path, demand-supply scenario, and computer-proficiency.

Some Universities in India are considering including forensic accounting (FA) courses into their curriculum. This evolution has unearthed an absence regarding the significant skill-set outcome that should accompany FA education. One of the objectives of this study is to examine the necessary skills that will be required by would-be FA's for the purpose of recommending them to Indian Universities for possible inclusion in their syllabi. The current study complements the two prior-studies undertaken by Razaee, Crumbley and Elmore (2004, 2006) by surveying "forensic professionals for their perceptions of the necessary skills and characteristics for FA, as well as the education requirements."

### **4. Analysis of Results**

A total of 65 respondents fully-completed the survey instrument, of them 20 (31%) were professional/forensic accountants, 20 (31%) accounting academics, and 25 (38%) were users of forensic accounting services. The overall response rate was 54 percent, which is little above the average score. The demographic profile of the sample is as follows: approximately 70 percent of the sample comprised of men, 62 percent were over the age of 40 years, 93 percent were having undergraduate/masters' education, 77 percent were having experience with business forensics, 88 percent had experience with accounting, and 92 percent had experience with auditing, respectively.

As stated earlier, our survey instrument (i.e., questionnaire) was divided into three Sections. In Section A, the list of choices provided to the participants was developed through an extensive review of the relevant academic and professional literature, consultation with forensic accounting practitioners, and users of forensic services. Based on the outcome of the current study, descriptive statistics for the 19 areas of skill competency, including the overall

means, standard deviations, variances, and ranges are shown in Table 3. It should be noted here that the “skills with the high means and low standard deviations are the most important skills required for CFA’s, while the skills with low means but high standard deviations are the least important skills required to be CFA’s.” Based on the findings of the present study, we can conclude as follows: “The skill competency items rated as the most important were effective written communication (M=15.5, SD=5.1), auditing skills and oral communication (M=14.75, SD= 6.7 & 5.2). Research skills (M=13.75, SD=6.8), tell the story, and investigative ability (M=13.5 & 13.25, SD=4.4 & 3.6) take the second position in terms of importance. The items rated as least important were: understanding the goal of a case (M=6.5, SD=2.9), solve unstructured problems (M=10, SD= 3.6), and synthesize results of discovery and analysis (M=10, SD=5.4), respectively.”

**Table 3: Skill Competency Required for Chartered Forensic Accountant's**

Skills Required for FA's	Mean	Standard Deviation	Variance	Range
Auditing Skills	14.75	6.7	44.9	15
Critical/strategic thinker	10.25	6.2	38.9	15
Effective oral communication	14.75	5.2	26.9	11
Effective written communication	15.5	5.1	25.7	11
Identify key issues	10.25	5.9	34.9	13
Investigative ability	13.25	3.6	12.9	8
Investigative intuitiveness	12	4.2	18.0	9
Organize an unstructured situation	12.25	6.6	43.6	14
Research Skills	13.75	6.8	45.6	15
Legal skills	11.75	4.6	21.6	10
Simply the information	12	4.2	18.0	9
Solve structured problems	11.25	4.3	18.3	9
Solve unstructured problems	10	3.6	12.7	8
Synthesize results of discovery and analysis	10	5.4	28.7	11
Tell the story	13.5	4.4	19.0	9
Think like the wrongdoer	11.25	4.3	18.9	10
Understand the goals of a case	6.5	2.9	8.3	7
Others: Psychology skills	10.5	3.1	9.7	7
Others: Sociology skills	8.75	3.8	14.3	9

(Source: Survey Results compiled by the author)

In Section B, most of the questions asked to the participants of this study have been suggested by DiGabrielle (2008) to be the important skills of Chartered forensic accountants (CFA’s). The respondents were expected to answer them on a 5-point Likert-type scale, ranging from 4 (strongly agree), 3 (Agree), 2 (Neutral), 1 (disagree) to 0 (strongly disagree). Here, nine questions were asked to practitioners, academics, and users of forensic accounting services that pertain to soliciting their views on “what skills are deemed to be inherently important for forensic accountants (FA’s).”

Descriptive statistics for the nine areas of competencies are shown in Table-4. The items rated as “the ‘most’ important were critical thinking, written communication and composure (100% each), followed by specific legal knowledge (97.5%), oral communication (95%) and deductive analysis (87.5%).” However, the items rated as ‘least’ important were “investigative flexibility (80%), analytical proficiency (75%) and unstructured problem solving (70%).” The findings of our study are, more or less, similar to a survey conducted by McMullen and Sanchez (2010), which concluded, “The skill ranked ‘highest’ in terms of importance is analytical skills, followed closely by basic accounting skills, problem-solving skills, and data analysis skills. The ‘characteristic’ ranked ‘highest’ in terms of importance are persistence and skepticism, followed closely by puzzles and people skills.” Thus, the identification of relevant skills of CFA’s illustrated in the results of this study would contribute to progress the literature in forensic accounting (FA) education by identifying the necessary proficiencies to be merged with the accounting course contents.

**Table 4: Percentage of Respondents Choosing Each Competency Skill Item**

Item	Strongly Disagree	Disagree	Neutral	Total	Agree	Strongly Agree	Total
	(0)	(1)	(2)	(0, 1, 2)	(3)	(4)	(3, 4)
Deductive Analysis	0.0	5.0	7.5	12.5	30.0	57.5	87.5
Critical Thinking	0.0	0.0	0.0	0	25.0	75.0	100
Unstructured Problem Solving	8.3	8.3	13.4	30	22.5	47.5	70
Investigative Flexibility	0.0	0.0	20.0	20	16.6	63.4	80
Analytical Proficiency	0.0	16.7	8.3	25	16.7	58.3	75
Oral Communication	0.0	8.3	8.3	5	41.7	41.7	95
Written Communication	0.0	0.0	0.0	0	41.7	58.3	100
Specific Legal Knowledge	0.0	0.0	8.3	2.5	50.0	41.7	97.5
Composure	0.0	0.0	0.0	0	25.0	75.0	100

(Source: Survey Results compiled by the author)

Finally, in Section C of our questionnaire, we asked the respondents to answer some questions regarding “education for and typical career-paths of FA’s.” First, we asked them, “Other than accounting, what undergraduate degree major do you think is most appropriate for a forensic accountant (FA)?” Sixty percent of the respondents answered “computer information systems” and twenty-seven percent answered “legal studies.” Table 5 presents the results for this question. We also asked, “What is the highest-level of education that you think is needed to be a successful FA?” Fifty-nine percent of the participants indicated that an undergraduate degree is the highest-degree necessary, while thirty-nine percent felt that a master’s degree is necessary. Finally, participants were asked, “What is the typical career-path for a FA in your firm?” Forty-three percent indicated that the typical career path is to graduate with a degree in accounting and start in the audit department of the firm.

**Table 5: Education and Career-paths of Forensic Accountants**

Undergraduate degree major most appropriate	Percent
Computer Information Systems	60.4
Economics	3.2
Legal Studies	27.0
Other	9.4
Total	100.00
Highest Level of Education Needed to be Successful	
Undergraduate degree	58.5
Master’s Degree	39.0
Other Degree	2.5
Total	100.00
Typical Career Path	
Start as intern	13.2
Graduate with degree in forensic accounting and join firm	7.5
Graduate with degree in accounting and start in audit department of firm	42.8
Work in legal profession before joining firm	0.6
Work in law enforcement before joining firm	3.8
Other	32.1
Total	100.00

(Source: Survey Results compiled by the author)

Secondly, we asked the respondents some questions about “the demand for FA’s in the future— next five, ten and twenty years.” As can be seen from Table 6, the majority of respondents felt that the demand for FA’s will increase

well into the foreseeable future. In fact, ninety-four percent felt that the demand for FA's would increase in the next 10 years. Respondents were also asked if they felt that there will be enough FA's available to meet the demand in the next five, or ten years, and beyond the next 10 years. As can be seen in Table 7, many participants were unsure if the supply of FA's would be enough to meet the demand in the future.

Table 6: Probable Demand for Forensic Accountants in the Future 5, 10 and 20 Years

Question	Mean	Standard Deviation
The demand for forensic accountants in the next 5 years will:	4.46	(0.646)
The demand for forensic accountants in the next 10 years will:	4.34	(0.651)
The demand for forensic accountants in the next 20 years will:	4.20	(0.728)

(Source: Survey Results compiled by the author)

Table 7: Expected Availability of Forensic Accountants in the Future 5-10 Years

Question	Percent
Will there be enough forensic accountants available to meet the demand in the next 5 years:	
Yes	13.5
No	61.5
Not Sure	25.0
Total	100.0
Will there be enough forensic accountants available to meet the demand in the next 10 years:	
Yes	25.3
No	29.2
Not Sure	45.5
Total	100.0
Will there be enough forensic accountants available to meet the demand beyond the next 10 years:	
Yes	31.8
No	16.2
Not Sure	51.9
Total	100.0

(Source: Survey Results compiled by the author)

Finally, the respondents were asked, "In general, do CFA's needs to know computer-based forensic techniques?" Eighty-four percent of the respondents answered in "yes" to this question. Moreover, we asked the respondents "how important four different software tools are for CFA's: ACL, IDEA, Data Mining, and Digital Evidence Recovery." The scales were anchored at each end with the descriptors "extremely unimportant" and "extremely important," respectively. For the purpose of analysis, the descriptor "extremely unimportant" was given a weight of 1, while the descriptor "extremely important" was given a weight of 7. The mid-point of the scale "neither" was given a weight of 4. Table 8 shows the results. The respondents rated each of these four tools as important, with data mining being rated as the most important with a mean score of 5.83.

Table 8: Ratings of the Importance of the Software Tools for Forensic Accountants

Tools	Mean	Standard Deviation
ACL	5.45	(1.297)
IDEA	5.24	(1.232)
Data Mining	5.83	(1.240)
Digital Evidence Recovery	5.82	(1.224)

(Source: Survey Results compiled by the author)

## 5. Conclusion

The recent accounting scandals have induced a crisis of confidence in financial reporting practice and effectiveness of CG mechanisms. When speaking about the 'fight on terrorism', Chancellor of the Exchequer Mr. Gordon Brown, former Prime Minister of the United Kingdom stated, "What the use of fingerprints was to the 19th century, and DNA analysis was to the 20th century, so financial information and forensic accounting (FA) has come to be one of today's most powerful investigative and intelligence tools available," (Muehlmann, Burnaby and Howe, 2012). There is no doubt that a "qualified, trained and mature accounting professionals (CFA's), possessing forensic skills, can prove to be a valuable asset to the corporate-sector, and gradually help to improve their CG system." Recently, Bhasin (2016c) reiterated "Forensic accounting (FA) in India, of late, has come to limelight due to the rapid increase in 'white-collar' crimes and the belief that our law-enforcement agencies do not have the 'expertise' needed or time to uncover frauds." Forensic accounting, in fact, integrates accounting, auditing, and investigative skills to conduct an examination into a company's financial statements. Broad-based knowledge is crucial to the success of entry-level CFA's. In 2011, the AICPA conducted a survey to evaluate trends within the 'Forensic and Valuation Services' practice area. The vast majority of participating forensic accounting professionals reported "significantly increasing demand for their services in recent years. They also forecast greater demand in the next two to five years accompanied by an uptick in litigation and regulatory enforcement during the same period." Moreover, DeLoach (2012) characterized forensic accounting as "somewhat of a 'niche' because it requires multi-disciplinary expertise that crosses the realms of accounting, criminal investigation, regulatory legislation and judicial litigation." We have seen growth in all areas of forensics, especially in computer forensics, which is being driven by the increasing use of technology and concerns about cyber-security. The FBI and Justice Departments are looking for CFA's because the reach of the profession has spread to areas such as money laundering and even terrorism cases (Brooks et al., 2005). KPMG, a large accounting firm, believe the market is sufficiently large to support an independent unit devoted strictly to 'forensic' accounting. All of the larger accounting firms, as well as, many medium-sized and boutique firms have recently created forensic accounting departments.

The recent wave of corporate fraudulent financial reporting has prompted global actions for reforms in CG and financial reporting, by governments and accounting and auditing standard-setting bodies in the U.S. and internationally. "The enactment of Sarbanes-Oxley Act (SOX) of 2002 was the U.S. government's response to the wave of fraudulent corporate financial reporting experienced during the 1980s and early 2000s, and represented a significant step in regaining investors' confidence in the global financial reporting process. The Act created new and stricter statutes to avoid a repeat of previous corporate financial disasters. The arrival of the SOX, the subsequent formation of the Public Company Accounting Oversight Board (PCAOB), and the implementation of the Statement on Auditing Standards No. 99 (SAS 99) has presented the current auditing environment with a new paradigm that makes finding fraud a priority," said Bhasin (2016d). According to Wells (2011), "SAS 99 is unique because it claims that there is a risk of fraud in every business. The new standard describes specific steps that the auditors must follow during an audit engagement. These steps include pre-audit brainstorming, increased professional skepticism, additional inquiries, consideration of risk factors, a determination of the response to the risk factors, and extensive documentation." SAS 99 also requires that the audit staff be evaluated to determine if they have enough fraud expertise.

Recently, Bhasin (2016e) suggested, "In the modern technology-based era, most of the criminals behind fraud use sophisticated technology and accounting tricks to commit complex frauds. This means that FA's needs the state-of-the-art facilities to uncover fraud. Computers are common tools used by the culprits behind "white-collar" crimes. In order to find "the smoking gun," the FA will need to be able to dig-deep into the company's computer system. To facilitate the preservation, collection, analysis and documentation of evidence, FA's can use specialized software and computer hardware." For instance, Deloitte & Touche (2011) has set up a world-wide network of computer forensic labs for their FA and technicians. There are many new technologies that allow the investigators to recover deleted files, crack encryptions or codes, and extract and sort data. No doubt, the accounting profession is witnessing major changes due to changes in technology. As it pertains to investigative accounting, the modern digital environment offers new opportunities for both perpetrators and investigators of fraud. The increasing rate of computer-based financial crime has created a huge demand for the skills and services provided by FA's. Furthermore, Bhasin (2006), once again, recommends that "eXtensible Business Reporting Language (XBRL) should be integrated across the accounting curriculum, in a manner relevant to the temporal stage and content of particular courses within the curriculum." Several countries have adopted XBRL in a variety of information value chains, notably in the USA context the Securities and Exchange Commission's interactive data program and in Indian context, Corporate Filing and Dissemination System (CFDS) used by SEBI from 2010. Thus, XBRL/CFDS has implications for the totality of the accounting curriculum and pedagogy. A program for the integration of them across a typical accounting curriculum should be developed soon."

The degree of professional skepticism auditors currently employ differs from the level used by CFA's. This is primarily why the AICPA and education leaders have called for "more forensic accounting education for auditors" (Arens and Elder, 2006). In addition, the PCAOB has emphasized that the detection of fraud should be an important objective of an audit (Carpenter, 2007). Despite the depth and breadth of authoritative standards available to guide accountant and auditor conduct, numerous stories in the press, as well as, academic research indicate that these standards have not been completely successful in eliminating ethical violations by accountants. Because of these continued breaches, confidential reporting mechanisms have received significant attention in recent years (Orumwense, 2013).

From the results of our analysis, we discovered that the different types of financial and economic crimes prevailing in the Indian economy include the corporate accounting frauds, security market scams, bank frauds (like ATM/credit card frauds, checks frauds, fraudulent fund transfers, withdrawals, presentation of stolen dividend warrants, and improper granting of credit facilities, inflated contract prices, embezzlement etc. The increasing demands in the current regulatory, legal, and business environments should stimulate accounting programs to emphasize and embrace forensic accounting. This research surveyed in 2011-12 120 potential practitioners, academics, and prospective users of forensic accounting services from NCR region, as representative of the entire country, to determine whether there are differences in views of the relevant skills suggested in the literature. The necessary skills required by FA's in India have been empirically examined and we have realized that financial and economic crimes have reached a level that special skills (such as those derivable from forensic accounting skills) set are required.

This study is a 'preliminary' investigation of the necessary skills, education requirements, and training requirements for CFA's. We surveyed academics, practicing fraud and forensic professionals in order determine the perceptions of the professional community. Since little research exists in this area, present research is 'exploratory' in nature. The results indicate that "potential practitioners and academic agree that critical thinking, unstructured problem-solving, investigative flexibility, analytical proficiency, and legal knowledge are more important skills of CFA's. Potential practitioners of forensic accounting services rated analysis the more important than did academic staff. However, both groups agreed with prospective users, who viewed deductive analysis as very important. The groups did not differ on oral communication, written communication, or composure rankings." These results show that "some skills are relevant and important to the outcome of forensic accounting education. Educators can use these skills as a guide to direct academic curriculum with the proper learning outcome objectives." Also, discovered are "the most important skills required by CFA's to include effective written communication, auditing skills and oral communication. The least important skills include understanding the goal of a case, solve unstructured problems, and synthesize results of discovery and analysis." In correlating the important skills as identified by our respondents, it was found that critical thinking, sociology and understanding the goal of the case highly correlated to each other, likewise effective written communication, psychology, investigative ability and simplify the information. Others are effective written communication, solve unstructured problems, organizing an unstructured situation, research skills, psychology skills, simply the information and solve structured problems, amongst others. Most of the important skills have "correlations within and above 50 percent, showing that most of them have significant association with one another for CFA's to function effectively."

Findings of this study show that "core skills are not enough requirements for CFA's to investigate economic and financial crimes in India." It means that some necessary skills from other disciplines (for instance, behavioral sciences and law) should also be embedded in the curriculum for training CFA's. This result concurred with the results of Zysman, (2008) and Boleigha (2011). The results of Davis, Farrell and Ogilby (2010) and Ekeigwe (2011) revealed that "the skill-sets of a CFA's are eclectic, these include general civilization, communication, accounting, business, auditing, technology, psychology, criminology, courtroom behavior, and meta-thinking skills, which are all critical to the effectiveness of CFA's." Again, our statistical testing of the 'second' hypothesis shows that "there are significant differences in the relevant skills of CFA's as given by previous researchers with the current research." This is a confirmation to the result obtained from testing the 'first' hypothesis, which shows that "core skills are not enough requirements for forensic accounting practice." Most of the early researchers, who have researched in this area focused on 'core' skills of CFA's. Finally, our test of hypothesis 'three' clearly states that "necessary skills of CFA's, as identified by both academics and professionals, will meet employers' expectations." Employers, who include lawyers and anti-graft agencies personnel, are the users of forensic accounting services and if they concur with what accounting academics and professionals say should be the skills requirement of CFA's, then academic and professional institutions should not hesitate to incorporate these skills in their curricula. Moreover, we found that all of the skills investigated in this study are 'potentially' important for FA's. The majority of the survey respondents indicated that "bachelor degree is the highest level of education necessary to be successful CFA's." This may have implications for Universities when designing their curriculum. In addition, the respondents indicated that "they feel



the demand for FA's will continue to be high." Universities should consider this when designing curricula and students will also find this information valuable when deciding on a major and considering career paths. Undoubtedly, much more research in this area is still needed. Universities should evaluate their course offerings and implement programs for assessment of their courses. Firm training programs should similarly evaluate course contents.

Accounting students need to be familiar with the role played by the information technology (IT) in the digital environment. Knowledge and application of technology is increasingly essential in effective forensic accounting, anti-fraud programs, and fraud investigations. Accounting students need to be aware of IT-based schemes and have an appreciation for the need to use specialists to support the work of the accountant in auditing or investigating computer-based fraud and forensic accounting issues. Many higher education accounting programs are considering incorporating fraud examination and forensic accounting content in their curricula. Further research in this area could "progress to classifying skills to identified courses." As Bhasin (2016b) remarked, "The auditing environment after the passage of SOA demands students with greater understanding of risk assessment (including business and fraud risks), forensic accounting skills, the ability to understand and document controls and link controls to assertions and audit evidence, and the competence to deal with CG and other PCAOB requirements. Acquiring these skills will require changes in the basic auditing course and one/more advanced auditing courses, as well as changes in the core business and accounting curriculum."

"Prior to Satyam, most companies perceived fraud as largely an internal event, primarily pinching the bottom line. They now understand that fraud can have an impact not only on the reputation and business prospects but also on the survival of the firm. This concern has led to higher demand for CFA's in countries like India and China," stated Bhasin (2016f). The Ministry of Corporate Affairs in India has also established the Serious Fraud Investigation Office, which seeks the help of FA's. The government recently proposed to give more teeth to the SFIO under the new Companies Bill by providing it statutory recognition and empowering it with more powers. Particularly in this age of SOX, we require professional accountants to have curiosity and a healthy skepticism of the financial systems around them. They must be able to identify relevant facts, evaluate judgment and interpret intent; follow a clear, ethical and logical path when performing their work; and communicate their thoughts to peers and clients. No doubt, one must be competent in critical thinking to be effective in life, especially in a competitive business environment. Indeed, while critical thinking is necessary for accountants in today's business world, cultivating students' critical thinking skills in an accounting classroom can be a challenge. Finally, Bhasin (2016g) sums up the situation as: "Forensic Accountants, being professional members of the CG and Audit Committees, can play a far greater role in coordinating company efforts to achieve a cohesive policy of ethical behavior within an organization. By helping companies to timely detect and prevent frauds through pro-active strategies and also strengthen internal controls with the active involvement of internal auditors, create a 'positive' work environment, establish 'effective' lines of communication, and be vigilant as a corporate 'watchdog', the FA's role can gradually evolve into a key component in the CG system. Let us hope that FA's, through their specialized knowledge, training and skills, will be able to improve CG scenario, still a work-in-progress, across the globe."

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