

Assessment of internal control systems to curb corporate fraud – Evidence from Brazil

Abstract

Prior studies concentrated on the misuse of accounting information systems but did not explore the effectiveness of internal control systems to curb corporate frauds. This study abridged the aforementioned gap. The study rallied round the question of which procedures are deemed appropriate or not in the internal control procedures to mitigate the risks of fraud in organisations. We conclude that corruption and misappropriation of assets' are frauds combated more efficiently and effectively by complainants channel, mechanisms of internal control and rules of compliance; while frauds in financial statements usually linked to higher echelon are more appropriately pinpointed by external auditors.

Keywords: Internal Control Systems, Corporate, Fraud, Audit, Compliance, Brazil.

1 INTRODUCTION

The beginning of 21st century accounting, notably an old and honoured tradition was shaken by a series of scandals involving major corporations of worldwide projection. Among them were American: Enron, Tyco, WorldCom, Xerox, Bristol Meyers Squibb, Merck and Global Crossing; European: Parmalat and Cirio, and; Brazil: Sadia, Aracruz, Banco Santos, Banco Pan Americano. These facts showed that existing internal controls were ineffective to safeguard assets, protect the interest of stakeholders, and especially protect the image of the companies. Thus, on international scene these facts raised greater concerns among investors, both in relation to the preservation of invested assets, or possible measures to guide against fraudsters willing to indulge themselves in the abuse of people's riches.

Prior studies involving Arruñada (2004, p. 635), Bierstaker, Brody and Pacini (2006, p. 550) and Yallapragada, Roe and Toma (2012, p. 188) found that cases of fraud occurring in the corporate environment, were characterized by presenting misuse of accounting information. The said information took advantage of complex and ingenious accounting techniques, aiming at cunning the market with transverse information in the financial statements. It was evident that in these cases, intentionally, the financial statements have not fulfilled their primary function of reducing the information asymmetry between companies' management and stakeholders interested in reliable and relevant information. Also, there was a clear misuse of management techniques and failure of internal control systems relative to protection of assets.

According to Dantas et. al. (2005), Pereira and Nascimento (2005) and Murcia, and Schiehl Borba (2008) these events also triggered a series of questions, both in relation to confidence in the instruments used for communication between the company and stakeholders, and the credibility of capital markets.

However, corporate fraud is not limited to matters relating to accounting, there are other unlawful means used by the fraudsters that also cause damage to the image and assets of the organizations. These are such as, industrial and corporate espionage, manipulation of information, purchases for personal benefit, payments of bribes and theft of assets, among others (Wells, 2008, p. 2).

According to Sá (1962, p. 39), half a century ago, we were warned that, for accounting science, all frauds represented a denial of the truth and, therefore, would require the study of its causes and effects, as well as its pathological condition. This should be monitored and combated, thus following the reasoning of the same author; this would depend on updating a

critical reflection upon the grip and level of the monitoring of internal control activities that is necessary to combat fraud.

Moore et al. (2006) initiated a discussion on the independence of auditors in the United States. Analysing the situation of hiring / firing of audit firms, described a situation in which the client can assess the likelihood that auditors issue a positive opinion. This suggested that the prospect of substitution may influence the final audit opinion. They reported a practice of auditors to signal their desire to accommodate the situation, known as low-balling: initially offers a reduced price to build a relationship that can become profitable for both, further, in accordance with the interests involved, and increases the price of audit services or supplement income through the sale of other non-audit services. They asserted that large audit firms whose names are recognized in the market are said to possess greater dependence.

However, a study by Silva and Cardozo (2012) while comparing studies on fraud published in Brazil in the last 20 years with that which occurred in the U.S. in the same period, concluded that in the U.S., 90.9% of the fraudulent financial statements were audited by the Big Five (five largest audit firms at the time, PricewaterhouseCoopers, Deloitte Touche Tohmatsu, KPMG, Ernst & Young and Arthur Andersen bankrupt), while in Brazil the percentage was only 31.6%.

Looking for current answers to an old problem, we formulate the following question to be investigated: What is the perception of professionals who work on mitigation of corporate fraud on the efficiency of their activities?

Upon analysis of the perception of professionals working to combat fraud, and based on the answers given by them, we established as an aim of this research to procure possible measures ICS to mitigate the occurrence of corporate fraud.

The survey was conducted with 156 (one hundred fifty-six) professionals working with the monitoring of internal control systems. Among the main results, were evident that the professionals working in this area were prepared for the exercise of their functions; however, there was considerable scope for the improvement of anti-fraud systems, as well as for personal development.

Given these considerations, it becomes imperative to detail the analysis of the occurrence of corporate fraud and efficiency of the mechanisms used to combat them, since there is a growing concern of Brazilian companies to mitigate instances of fraud, to protect their assets and meet stakeholders' expectations, both in Brazil and abroad. Improvements in the internal control systems are also expected by regulators and others related to the government, which may contribute to the preservation of the image of the state and demonstrate responsibility towards the national concern at large.

This article is structured as follows: this introduction which refers to the context of corporate fraud, theoretical framework that supports the analysis developed, methodology and research procedures, analysis of the main findings and concluding remarks on the environment of corporate fraud, in view of individuals charged to combat them.

2 LITERATURE REVIEW

The theoretical framework developed to support this research initially contemplates the conflict of interest, through the agency theory, followed by the in-depth discourses on the concept of fraud, and from this concept presents the tree of fraud and its typology. We further showed a roadmap to understanding the procedures for combating fraud.

2.1 The conflicts of interest

The result of adverse positions discussed in the Agency Theory, can illustrate the discussion of fraud in the corporate environment, because the problem occurs as a result of conflict of interest between two entities, the principal and the agent. The principal is characterized by the owner and shareholders of a company, which does not have all the information on monitoring activities undertaken by the agent (Jensen, Meckling, 1976). The agents, in turn, have power to take decisions and lead the company. This same author affirms: *an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some services on their behalf which involves delegating some decision making authority to the agent* (JENSEN; MECKLING, 1976, p. 308).

Whereas both parties seek to maximize the relationship of personal interests, there is the latent probability that the agent does not always act in accordance with the interests of the principal, since he can make decisions in order to obtain personal benefits. To mitigate conflicts of interest, the principal may establish measures of incentives (bonuses, profit sharing, stock options, etc.) and also monitoring activities (internal controls and external audit, compliance, complainant channel, and others). The implementation of these activities result in so-called 'agency costs', i.e., manifesting or no conflict, there will be the cost.

Thus, deriving from the aforementioned, the context of corporate fraud, the existence of information asymmetry is primarily responsible for the emergence of the fraudster's opportunity to perpetrate the act for self-benefit, thereby causing damage to others. Considering the problem from the standpoint of professional auditors, perhaps the most notable case, the psychological side is the condition in which the conflict of interest may lead the auditor to be unconsciously indulgent. Moore et al. (2006) remind us that the U.S. researchers analysed the problem by economic lens through which independence means that auditors choose to audit non-biased or enter into collusion with the companies. Another aspect to be discussed is that even if the interest of companies in issuing audit reports is unbiased, auditors, as individuals, may be interested in working for these clients in this situation knowing full well their careers may depend on their relationship with such clients, time when their interests conflict with those of the company for which they work. Otherwise, it can be stated that their incentives diverge negatively at the firm for which they work.

The root of the problem is conflict of interests, Moore et al. (2006) in their article, argue emphatically:

Auditor independence is easy to understand but difficult to implement. This article aims to show that a corrupt system was institutionalized based on the domain of a clear conflict of interest - the mind of the auditor to the structures that govern the industry, and legislation to the political process that created it. Investors, shareholders and the financial market depend on the financial reports of companies, prepared by independent auditors. Only through a radical reorganization of the industry the term independent auditor will effectively describe the auditor in the United States. Much can argue that these reforms will have a high cost. However, doing nothing can cause greater risks; indeed, we may not be able to make this reform.

2.2 Fraud as a phenomenon

Blanqué (2002, p 60) and Rockness and Rockness J. (2005, P. 32) in their analysis suggested that fraud cannot be considered as a recent phenomenon or so little an easy concept, due to the existence of many interrelated factors that have been revealed since the first cases. These same authors opined that, in general, fraud involves ethical, legal, institutional, economic and moral values of a given society.

Wells (2008, p 5), in his work concerning the principles of fraud examination, sought, more objectively to typify fraud: Any crime committed in order to gain advantage through deceit / tricks as their primary modus operandi. Described four legal elements that should be present: i) a false statement or false document; ii) the author's knowledge that the document was false; iii) confidence in the false document by the victim, and; iv) existence of damages.

According to *American Institute of Certified Public Accountants (AICPA)*, fraud can be defined as: Any intentional act or omission intended to cause deception to third parties. Ordinarily, fraud involves the intentional misrepresentation, deliberate concealment of a relevant fact with the purpose of inducing another person to do or refrain from doing something in his or her detriment.

In turn, the Institute of Internal Auditors (IIA) defines fraud as: Any illegal acts characterized by dishonesty, deception or breach of trust. These acts do not involve the use of threat of violence or physical force. Frauds are perpetrated by parties and organizations: money, property or services to be obtained; to avoid payment or loss of services; or to secure personal or business advantage.

This concept is the closest to that used by ACFE (2012, p 6.), considered as the main association responsible for organizing and training professionals in combating the fraudulent acts: "Occupational fraud can be defined as the use of an office or position to obtain advantage and personal enrichment through the misuse or misapplication of funds and assets of an organization".

2.2.1 Fraud or Error?

When researching fraud, it is necessary to differentiate fraudulent acts from other interpretations that could make one misconstrue the reality. Is it an unintentional error? Then it is the one committed in the course of action on a given task by gross mistake. According to Sá and Hoog (2010, p.21.), while fraud has the characteristic of fraud, committed wilfully and with intent to obtain advantage, an error can be characterized as an involuntary action or omission.

The Brazilian Federal Accounting Council (CFC), in its standard NBC TI 01 (2003) which deals with audit procedures, drew the following distinction:

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- 12.1.3.2 - The term fraud applies to intentional act or omission and / or manipulation of transactions and operations, tampering with documents, records, reports, financial statements and information, both in physical terms, as monetary.
- 12.1.3.3 - The term error applies to unintentional act or omission, inattention, ignorance or misinterpretation of facts in drafting records, financial statements and information, as well as transaction and the entity's operations, both in physical terms, as monetary.
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Observe that the two definitions address the importance of the professional responsible for the verification of accounting documents, when met with the fact, to conduct personal judgment on whether the act was premeditated or done unintentionally. It is noteworthy that both situations cause damage to the company, however, the manner through which the auditor investigates the situation is completely different.

2.2.2 Diamond of Fraud

Fraud has always been present in society since the dawn of time and possibly continues intermittently with steady organizational and societal impact. It is indifferent when one relates it to the occurrence in the organizational processes, since the operation, control and management are performed by human beings, in which the ethical and moral aspects are adjusted in accordance with the culture of a society. Aristotle warns that we should not require a lot of accuracy in researching ethics (IRWIN, 1996. 13).

For socioeconomic reasons, companies, pursuing their implicit goals, seek to understand and minimize the causes and consequences of fraudulent acts (KPMG 2009 p. 11). The diamond of fraud by Dorminey et al (. 2011 p 18-25) illustrates the elements that routinely exist in fraudulent acts: pressure, opportunity and rationalization - which, in Figure

1, are reinforced by a criminal mind and arrogant attitude.

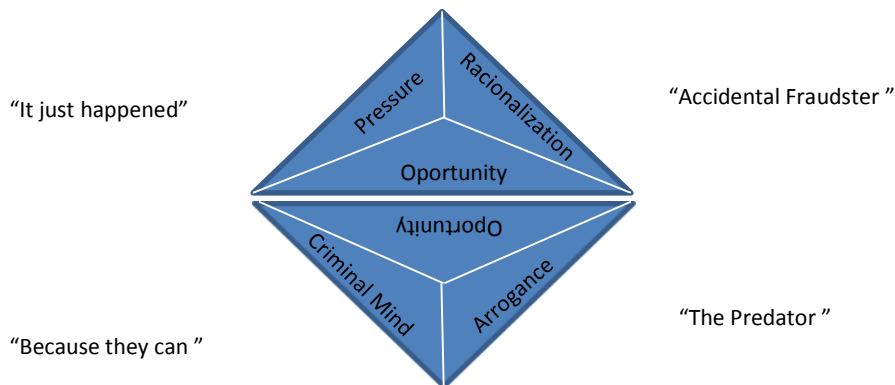


Figure 1 – Diamond of Fraud
Source Dorminey et al., 2011

Still, Dorminey et al (2011) and ACFE (2012a) suggested that the process of a fraudulent can take the following steps: i) pressure, the desire or the need to commit fraud; ii) opportunity, identification of flaws in control, which allows the performance of the act; iii) rationalization, self-conviction, after evaluating the risks involved, that it is worth taking it, and; iv) ability to intuit that he or she has the characteristics and skills needed to carry out the fraudulent act.

Noteworthy that the capacity of an employee to commit a fraud is associated with the opportunity he has at hand. This becomes more serious when the author is extremely skilled, not only with personal skills, but with knowledge of internal processes associated with decision-making and authorizing powers within the organization that is within his reach.

2.3 Typology of fraud

The most relevant contribution for the treatment of forms of corporate fraud was developed by the Association of Certified Fraud Examiners (ACFE, 2010a), by disseminating the Tree of fraud in their annual reports on fraud. In order to present succinctly known forms of corporate fraud, the ACFE has developed in schematic format, the 'tree of fraud', a structure that has 51 (fifty one) individual types of fraud, divided into three groups: corruption, misappropriation of assets and fraudulent financial statements. The Tree of fraud is presented in summarised form in Figure 2.

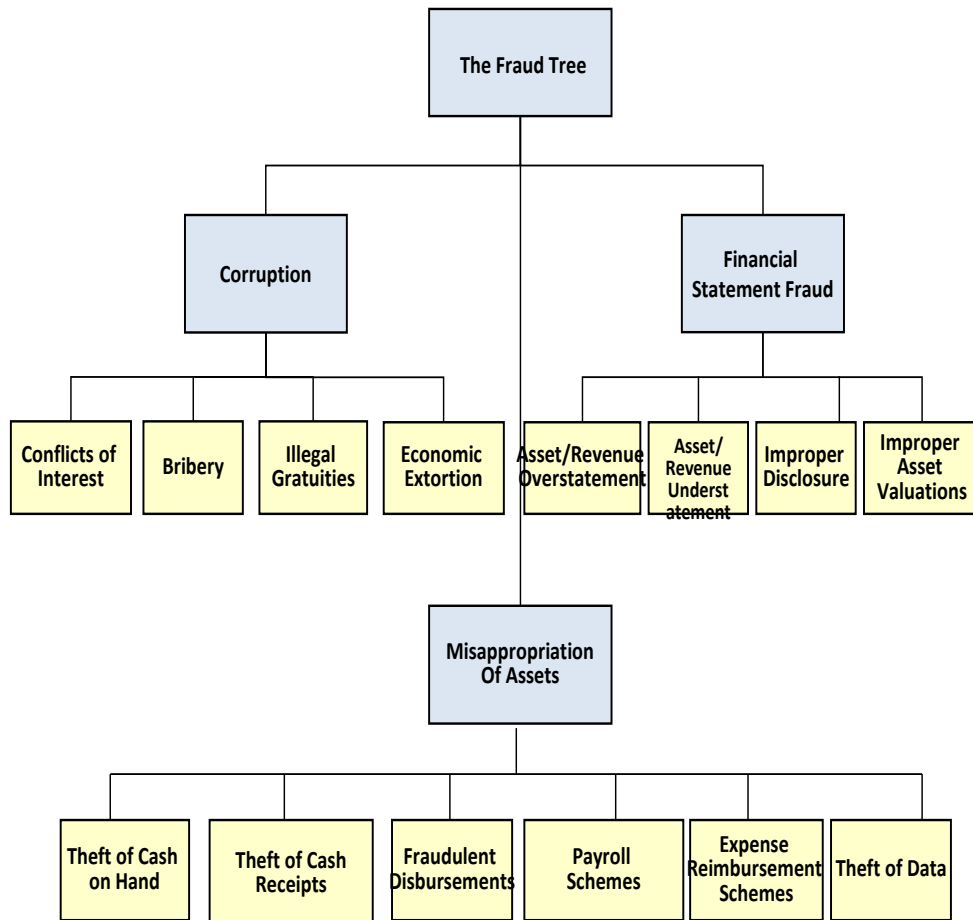


Figure 2 Tree of Fraud
Source: Adapted from ACFE (2010, p. 7)

2.3.1 Corruption

The word corruption has its origin in *corruptus* Latin, it means breaking into pieces, comes from the verb corrupt, which means becoming putrid. Although regarded as an old phenomenon in all societies, corruption is growing due to the complexity of social life and economic development (SIMÕES, 2011, p 197.).

Wells (2008, p. 237) defined corruption as the act performed by a person who uses his office or position to obtain personal gain at the expense of the organization he represents. This definition confirms the economics of corruption, whereby Abreu (2011, p.18) conceptualizes corruption as a transaction, an exchange process and contractual relationship in which on the side of supply, there are agents considered as producers of decisions - such agents hold political, social or institutional power, necessary for decision-making conditions - on the demand side, are characterized by agents who hold the purchasing power for the assets they administer. Sá and Hoog (2010, p.166) emphasized that corrupt act occurs mostly through the practice of obscure expedients which involve listing fees and kickbacks on private use of public property.

In the corporate environment, it has been increasingly in business involving private companies and public institutions. This fact has been shown in research conducted by the ACFE. The last one that occurred in 2012, showed that 33.4% of the fraudulent acts were characterized as corruption, an increase of approximately 0.6% in the previous survey conducted in 2010 and to 6.5%, compared to 2008 (ACFE, 2012).

Araújo and Sanchez (2005, p.138) and Santos; Amorim and Hoyos (2010, p. 4) claim that their reflexes impede economic development, reduce the state's ability to provide essential services to the society, discourages the population in the search for the common good and negatively impacts the economic, social and political factors , preventing the sustainability of any society.

In the Brazilian context, the definition of corruption has a strong link with the public sector, particularly when the first ranked publicly traded company (*Petrobras*) is cited in fraud scandal at the last quarter of 2014 with the politicians aiding and abetting with the most famous construction companies financing politicians. Studies conducted by Brazilian researchers threw a light on the definition of corruption, as the behaviour of persons in authority or public function that deviate from their obligations for personal gain, whether financial or personal character, however, involving public assets (Araújo , 2005, p 6; *Empresa Limpa*, 2010; Maciel, 2005, p 16).

In a report that was published in Brazil between 2008 and 2009, FIESP (2010) corruption reached an apex that corresponds 2.3% of GDP, about U.S. \$ 69 billion at the time. Although there is no zero corruption in any country, Brazil, among 177 countries in 2013 occupied the 72nd position in the ranking of corruption perception index prepared by Transparency International. Like the previous reports, this same report continues to reinforce anti-corruption actions that focused on two main aspects: i) the creation and strengthening of mechanisms for the prevention, monitoring and control of corruption in public administration and, ii) reduction of the perception of impunity, through a faster and more efficient justice, to induce a change of opportunistic behaviour.

The same report also warned of the serious damage that is caused by corruption in the country:

[...] Higher levels of perceived corruption are associated with higher risk of the country. Besides risking the stability of the business environment by reducing the attractiveness of productive investment, corruption generates negative consequences on the level of income *per capita*, social development indexes such as the HDI, competitiveness and potential growth of the economy.

So, succumbing to the yearning and expectation of the entire society, on August 1, 2013 a Corporate Law No. 12,846 known as the Anti-Corruption Law or Business Probity Law was enacted which provides for administrative and civil liability of legal persons for the perpetration of acts against the public, domestic or foreign government and otherwise. Specifically, this law seeks to curb harmful practices to the national exchequer. The novelty is that palliative measures hitherto little affected financial or criminally the enterprises now will be tightened, resulting in fines of up to 20% of revenue or even closure of enterprises.

This study considered the classification used by the Tree of fraud that characterized as corruption, when there is or no public power involvement. Thus, corruption can be defined as the misuse of power or authority granted to an individual for the purpose of personal gain through kickbacks, commissions, goods, among other ways, however, always to the detriment of the institution, he is thus not complying with the obligations to which has been assigned. Its consequences are tied to equity losses, operational and financial costs, and inadequate investment in social and political impacts.

2.3.2 Misappropriation of assets

Albrecht, Kranacher and Albrecht (2008, p. 1) suggested that misappropriation of assets may be characterized as case where the perpetrator makes use of devices with the intention of stealing or misusing the resources of an organization, whether financial or non-financial, for their own benefit.

This misappropriation of assets is characterized by the direct benefit to the individual responsible for the act, which may be a company's employee, supplier, customer, service providers, among others. The main feature of misappropriation is the use of methods and procedures that enables one to circumvent existing controls of an entity, deceiving and causing eventual pains to third parties.

2.3.3 Fraudulent Financial Statements

Wells (2008, p. 299) defines fraud in the financial statements as deliberate distortions, omissions of facts or disclosure in the financial statements, with intent to cause deception to its users, especially investors and creditors.

The ACFE (2012b, p. 10) characterized fraud in the financial statements as those involving intentional distortions or omissions of relevant information in the financial reports of the organization. The most common methods involve the concealment of liabilities and expenses, recording fictitious revenues and disclosure of non-existent assets.

This same institute in its annual survey found that fraud in financial statements comprises 7.6% of corporate fraud worldwide. However, the average loss is around \$ 1 million, which is much higher than the average of cases of corruption and misappropriation of assets, where the average loss is around US \$ 120 to US \$ 250 million.

2.4 Procedures for Combating Fraud

Due to the evolution of the ways of persecuting fraudulent acts, which negatively impact public and private organizations, thereby causing financial losses, damaging the image of the companies, creating insecurity and doubts about the reliability of the processes performed, it becomes imperative for the adoption of a more effective methods of internal control to combat fraud, in order to mitigate its occurrence in organizations.

Two instruments are key to combating fraud within the corporation: the first relates to the adoption of an internal control system (ICS) operating activities, including mechanisms that hinder fraudulent act; the second corresponds to an accounting system that meets the requirements of trustworthiness and clarity of the information that runs through the nerves of the blood stream of the organization. This should occur in conjunction with monitoring procedures and the follow-up of these controls, with a view to making them effective in detecting fraud (SILVA, 2012, p. 75-92).

Regarding the responsibility of implementing internal controls of a company, the Code of Best Practice for Corporate Governance of the Brazilian Institute of Corporate Governance reveals that the CEO, together with the board, have the responsibility for the quality of the company's controls.

2.4.1 Internal Control Systems (ICS)

According to Antunes (1998, p. 62) and Sanchez (2007, p. 24) the terminology internal control system is not usually found in the literature of pure management science. It can be argued that the term is almost used exclusively by professionals and academics involved with internal and external audit. Internal controls of an organization can be likened to any activity undertaken with a view to safeguarding the assets, the image and the company's goals.

Accordance with international auditing standards, internal control is defined as the totality of the policies and procedures established by the management of an entity to assist in achieving the goal of ensuring an orderly and efficient way to manage a business, as well as the inclusion of compliance administrative standards, safeguarding assets, detecting and

mitigating the likelihood of fraud and error as to produce reliable and relevant accounting information to the decision maker (Ibracon 1998, p. 82).

According to the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2002), there are five factors considered as critical for the consolidation of an adequate internal control structure: the control environment, risk assessment, controls activities, communication and monitoring. Such factors are adjusted according to the structure and needs of each company.

2.4.2 Anti-fraud controls and monitoring of internal control systems

The anti-fraud controls are fundamental in entity's ICS, especially for mitigation and detection of fraudulent acts. However, to effectively detect and mitigate fraud there requires that the tools work seamlessly, providing and strengthening the system, it is essential that each entity adopts the anti-fraud method that suits its corporate environment.

This study is based on the main controls implemented to curb fraud, cited in research conducted by some of the leading organizations working in the area of consulting and audit, and also develop research in the area. Table 1 summarizes the controls developed by organisations such as ACFE, KPMG, PwC and E & Y.

Table 1 - Anti-fraud Control – Selected Researches

Anti-Fraud Control	Responsible Area	Researches			
		ACFE (2012)	KPMG (2009)	PWC (2011)	E&Y (2010)
Internal Audit	Internal Audit	x	x	x	x
External Audit (Financial Statements)	External Audit	x	x		x
Code of Conduct	Compliance	x	x		
Complainant Channel	Hotline	x	x	x	x
Management Review Processes	Internal Controls	x	x		x
Training to Combat Fraud	Internal Controls	x	x		
Anti -Fraud Policy	Internal Controls	x			x
Surprise Audit	Internal Audit	x			
Audit Committee	Audit Committee	x			
Job Rotation	Internal Controls	x	x	x	x
Employee Assistance Programs	Internal Controls	x	x		
Fraud Risk Assessment	Internal Audit	x	x	x	
Reward for Whistleblowers	Internal Audit	x			
External Audit (Fraud Examiners)	External Audit	x	x	x	
Transaction monitoring suspected (IT)	Internal Audit			x	

Sources: ACFE (2012); KPMG (2009); PwC (2011); E&Y (2010)

Thus, when evaluating the major anti-fraud controls mentioned in these studies, we state six main areas considered responsible for implementing and/or monitoring of internal controls in corporations. They are namely: Controllers Function, Internal Audit Function, Audit Committee, Complainant Channels; Compliance Department and the External Audit Function. It is noteworthy, that not only that these areas have direct responsibility for detecting fraud, but each has an important role in reducing information asymmetry and mitigating accounting errors that could lead to fraud. These areas with their organizational interrelationships and their functional tasks related to fraud detection and mitigation of same, form a part of a structure of ICS as shown in Figure 3.



Figure 3 - Internal Control Systems – Monitoring

3 METHODOLOGY

This research in the typological view of Abramo (. 1979, p 34-44), is characterized as: applied, due to its practical usage; quali-quantitative, because the methods were complementary and without predominance; considering that the data are based on experience of the respondents.

With respect to sample, data are primary and were obtained by a survey; the survey was neither completely random nor entirely intentional, however, sought to expand the consultation in the limit of relationship with professional associations in order to obtain a national reach.

3.1 Research Design

In order to understand this research, it is necessary to state how it was designed. Suffice it to say, that research on fraud is very difficult knowing full well as being a complex issue due to the multiple ways of occurrence and authorship. In addition to this, the disclosure may be harmful to the directors and the company at large, so there may be the need to treat such cases as highly confidential. Therefore, gaining access to information about fraud of a considerable number of companies, which allow meaningful statistical analysis, is almost an impossible task.

However, there is a public that deals with these issues in their daily basis, by duty-bound: the external and internal auditors and the staff that works in the area of controlling, i.e. the personnel linked broadly to ICS. Thus, this study sought to interpret the perceptions of the professionals who work in this area, without mentioning the facts, names or key actors involved in cases of frauds in each environment. “How do one tell the story without identifying the real actors”; or “Tell the miracle, without revealing the saint”. Thus, it was possible to achieve the envisaged goals with the gathering of the perception of the professionals involved without tampering with individual cases.

3.2 Instrument

The questionnaire was developed based on the theory and applied research undertaken by the institutions listed in Table 1: ACFE, KPMG, PwC and E & Y as mentioned earlier on. The initial questionnaire was improved from two pre-tests with professionals. The final questionnaire consisted of 22 (twenty-two) questions structured into five sections with closed-end questions in order to avoid ambiguity in the interpretation and the coding of responses and the results were subjected to the analysis of the descriptive statistical methods.

The closed ended questions considered the concept of perception as qualitative variable attitude, and were prepared with the support of a seven-point Likert scale, with the aim of quantifying the resulting answers. The assumptions of the seminal work of Rensis Likert were used: A technique for the measurement of attitudes (Likert, 1932):

The verbal declarations of opinion and attitude are regarded as an indirect method of measuring dispositions which are most easily signified and expressed in verbal form (p. 9).

.....
So far as the measurement of the attitude is concerned, it is quite immaterial what the extremes of the attitude continuum are called; the important fact is that persons do differ quantitatively in their attitudes, some being more toward one extreme, some more toward the other (p. 48).

Better still, we considered the basic assumption that the Likert scale is an interval, and as such may be subject to descriptive statistical analyses (Siegel, 1975, p. 33). Another important aspect in the analysis occurred when the results of the Likert scale were normalized, corresponding to a percentage of the range of the scale adopted. For example, in seven-point scale: 1 (one) corresponds to 0%, seven (7) at 100% and four (4) 50%. This transformation aims to facilitate understanding of information arising from the analysis.

The questionnaires were made available on the website of Survey Monkey and respondents were invited to participate via social networks (LinkedIn) and electronic correspondence. The questionnaire was sent to the link as reinforcement between September 26 and October 30, 2012. Responses were received in the period between September 26 and November 6, 2012.

3.3 Population and Sample

Altogether, 820 e-mails were sent to members of the target population, who were also asked to indicate other colleagues to participate in the research by adopting a process known as snowball sampling.

The final sample consisted of 156 (one hundred fifty-six) professionals who responded to the questionnaire, equivalent to 19% of the professionals contacted. Cares in the preparation of the questionnaire proved to be efficient, because of the received answers, all were recovered, without the occurrence of missing values, during the analysis.

As a limitation of this study it is worthwhile to mention that the sample was conducted despite their relative scope and the required methodological care, however, this may have suffered the bias of purposeful sample.

An important aspect is that with 156 respondents, considering the standard Likert scale, and assuming an error of 5.2%, we can estimate a significance level of 5%, which gives us 95% confidence in the result obtained. Thus, for a result of 70%, admitting an error of $\pm 5.2\%$ i.e. the result can range between 64.8% and 75.2%; being 95% confidence level.

3.4 Validity and Reliability of the Research

In this topic we tried to discuss the criteria of reliability and validity of this work. Initially, the 'construct validity', considered as a mental creation from the theory of support was emphasized from the in-depth and theoretical discussions that shaped the structure of work and the survey that formed the basis for the analyses.

The 'internal validity' defined by Cozby (2001, p.102) as the ability to draw conclusions on cause and effect data, focused on the correspondence between dependent and independent variables, allowing according to Yin (2006, p.56) an operating range of averages:

$y = f$ (corporate fraud -'tree of fraud'; likelihood of fraudulent acts in the corporate environment; enforcement of monitoring activities to combat corporate fraud, knowledge and experience of professional performance in the field and fraud research; perception of how the business scenario has been treating the likelihood of corporate fraud).

Yin (2006, p. 57) draws attention to the wider purpose of internal validity, which is to allow inference, meaning to achieve the research purposes of external validation. Cozby (2001, p. 102) confirms by emphasizing the importance of strong relationships between cause and effect between variables. Also regarding 'internal validity' two pre-tests for improving the survey and sampling was performed focusing on professionals with proven responsiveness and information integrity.

The 'external validity' focused on results based on the experience of the respondents (sample consulted), composed of professional auditing (internal and external) consultants responsible for monitoring the ICS (complainant channel assessment, compliance, risk management and assessment for fraud) and fraud investigation.

Still sought to 'external validity' to support this study in key controls against fraud cited in the surveys conducted by professional associations and audit firms: Association of Certified Fraud Examiners (ACFE, 2010b, 2012b), KPMG (2009), *PriceWaterhouseCoopers* (PwC, 2011) and Ernst & Young (E & Y, 2010). The number of responses obtained in the field research, was considered representative given the coverage of the businesses environment, professionals and experience that the 95% level of reliability achieved by the 156 responses obtained by the survey was considered exceptional.

4 DATA ANALYSIS AND RESULTS

In this topic we highlight the treatment given to the data and results reached.

4.1 Characteristics of the respondents

Concerning the Age and professional experience, the sample showed a pattern of seniority of the respondents, 38% above 41 (forty-one) years; and 40% between 31 to 40 (thirty to forty) years old. Another factor considered relevant for the results was the work experience. Confirming seniority of the majority, 109 (one hundred and nine), corresponding to 70% of the respondents have more than eleven (11) years of professional experience, with 46.3% of the sample have more than twenty (20) year career.

The characteristics of the current employer of the respondent show that 65% of them are large organisations with more than R \$ 300 million *Reais* of revenues - criteria of the National Bank of Social Development (BNDES). Companies of this size have a high level of corporate governance, i.e., invest more in control tools that mitigate the likelihood of fraud and error.

The questions posed paid attention to the perception of the respondent considering the monitoring activities of ICS in combating fraud in the business environment, and not dissociated to the policies of the company with which they have ties. However, part of perception can be strongly influenced by the situation in which the respondent finds himself in the current routine. While this premise is accepted, this nonetheless gives rise to a current view of the problem analysed - which confirms the external validity of the research.

4.2 Taxonomy of Fraud

In understanding the corporate fraud environment, the second section of the questionnaire relates to capturing knowledge of the respondent with regard to the environment in which fraud is perpetrated. This has been contemplated according to the taxonomy of tree of fraud, the chances of fraud and the results of monitoring activities of ICS, the probability of detecting and mitigating fraud.

Although several academic papers and researches by professional agencies use the Tree of Fraud as a basis for classification of the types of fraud committed in the business environment, almost half of respondents (49%) did not know their structure.

In relation to the situations created in the business environment that may favour the emergence of the occurrence of fraudulent acts, considering four factors mentioned by Diamond of Fraud, the opportunity stood out as the most important factor that favours the occurrence of fraud. Figure 4 which presents a Likert standardized scale should be interpreted as the probability factor that gives rise to fraud. For example: a fraud occurred, because there were 86% of opportunities for its perpetrator, 72% probability of pressure on the perpetrator, etc.

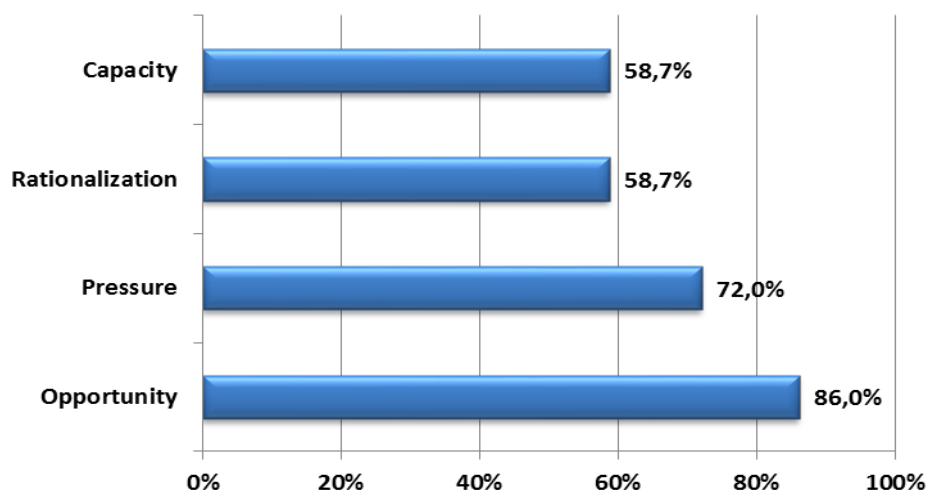


Figure 4 - Factors favouring occurrence of frauds

With respect to the experience and perception of the respondents concerning occurrence of fraud, we asked professionals, based on eleven (11) major branches of the Tree of Fraud (see Figure 2), asking them to indicate the four occurrences of fraud to which companies are exposed to. Figure 5 shows the situations selected as most likely to motivate the occurrence of fraud: i) conflict of interest (66%) - characterized as the agent prioritize their personal interests above the interests of the company; ii) Deviations (56.4%) - sales, receivables, refunds; iii) document manipulation (54.5%) - internal and / or external, and; iv) fraudulent disbursements (41.0%).

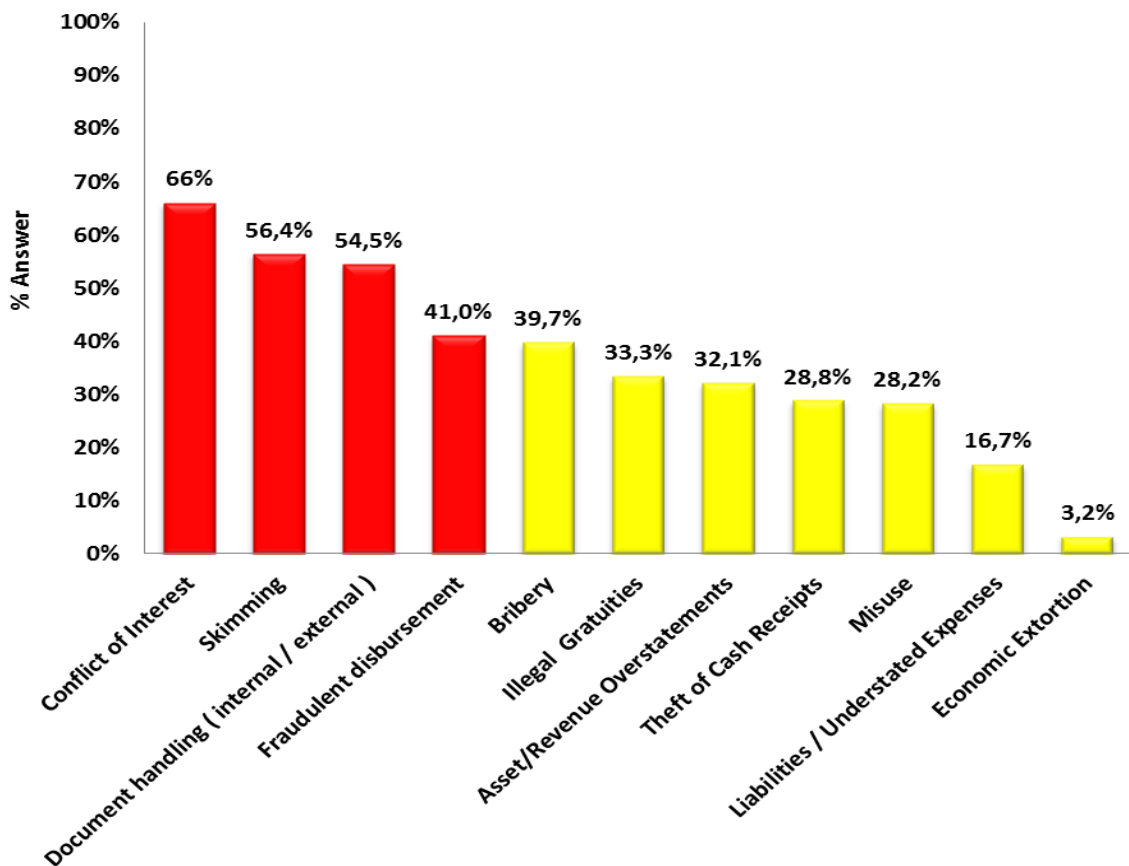


Figure 5 – Situation of propensity to fraud

Also, we asked the respondent to indicate which cases of fraud were they met in the course of their careers. Confirming the answer to the previous question, respondents reported the same categories, with slight change in the percentage of responses: i) conflict of interest (67.9 % x 66%) characterized as the agent prioritize their personal interests above that of the company; ii) Deviations - sales, receivables, refunds - (60.9% vs. 56.4%); iii) manipulation of documents - internal and / or external (59.0% vs. 54.5%), and; iv) fraudulent disbursements (59.0% vs. 41.0%). As there was no access to previous responses, it is possible that respondents have used the memory of past events, to answer both questions, which reinforces the content analysed.

4.3 Monitoring of ICS in a bid to curbing Fraud

The questionnaire sought to assess what are the controls that have the greatest potential to mitigate fraud. 15 (Fifteen) controls options were provided, based on the support of the research conducted by the professional bodies (ACFE, 2010b, 2012b; KPMG, 2009; PricewaterhouseCoopers, 2011; E & Y, 2010). Responses were given by Likert scale 1-7, which was normalized for evaluation.

Figure 6 presents the results, and with the aid of caption and the corresponding indices, it appears that the most efficient in mitigating fraud areas are: i) internal controls, using the monitoring of suspicious transactions, the management review process and the training on how to combat fraud; ii) internal audit through the investigative audit, albeit conventional work, assessment of fraud risk and surprise audit; iii) hotline or complainant channels. All these have been evaluated as having a higher probability 70% mitigation of risk of fraud.

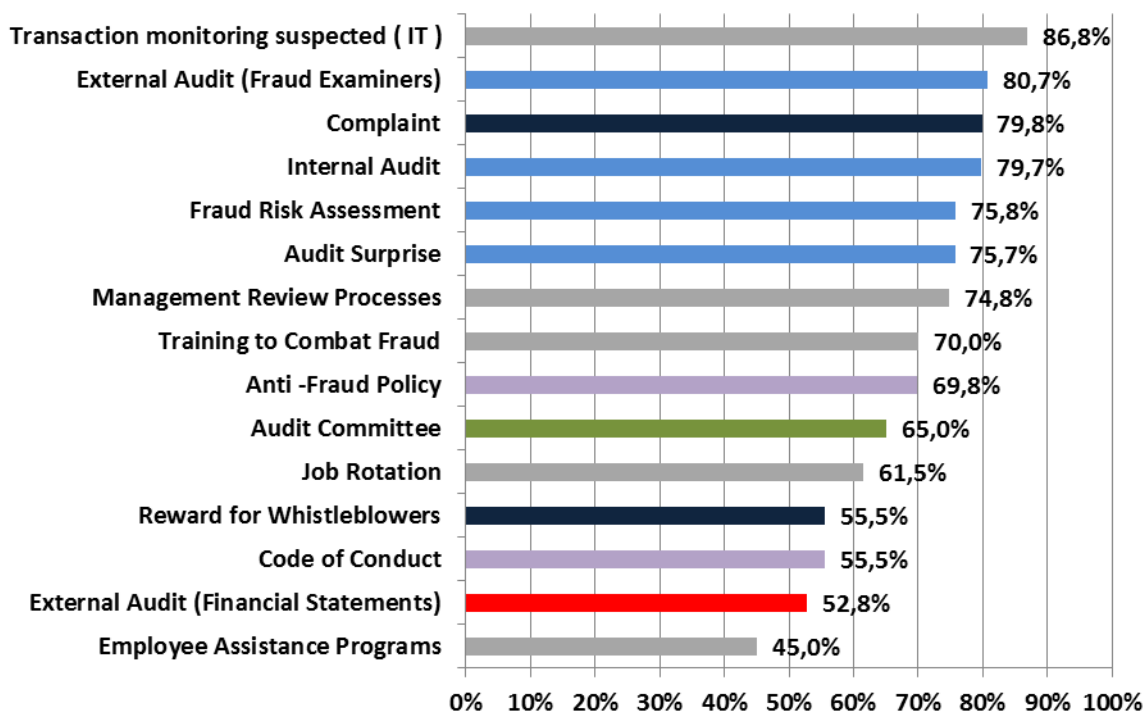


Figure 6 – Probability of ICS to Mitigate Fraud

This study pinpointed 6 ICS measures which are responsible for most of the tools used to mitigate corporate fraud and these are said to be intimately related to such fundamental characteristics of fraud curbing enhancing tools (see Fig. 2 Tree of Fraud) and/or Figure 7 highlights the effectiveness of internal controls in the channel against fraud activities.

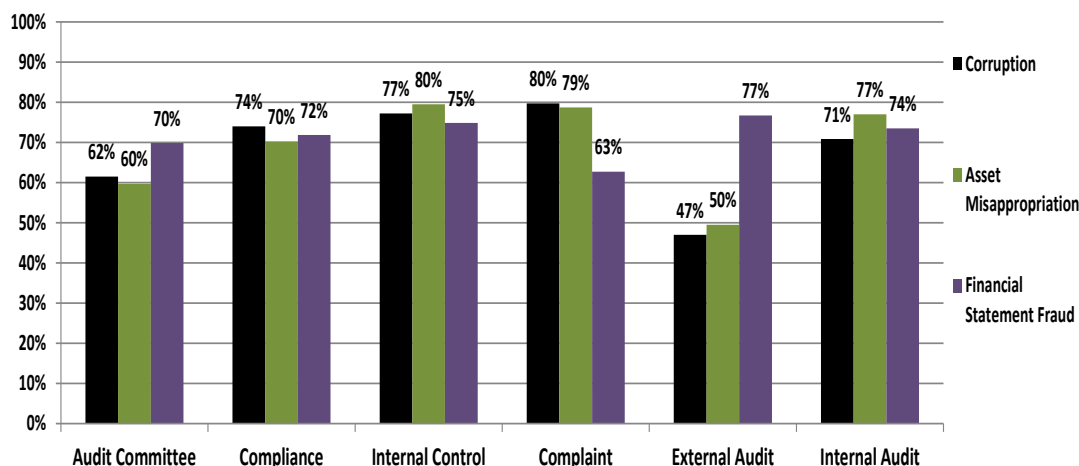


Figure 7 – Effectiveness of ICS mechanisms to combat fraud

Regarding the activities of corruption (bribery, bid-rigging, conflict of interest, etc.) the complainants channel, internal controls and compliance were the most efficient having assessment above 70%; audit committee, external audit were less efficient, possibly due to time of stay in the organization and application of structured procedures which may not be appropriate for fraud prone environment. Probably a less structured procedures could assisted

the auditing in their investigation but in order to initiate their investigation they would have to use information from the complainant channel.

The frauds through misappropriation of assets (theft of cash, inventory and assets; fraud on payrolls and supplies, and, more recently, data theft) have as cohibitive measures, internal controls, hotline, compliance and internal audit, everyone with assessment greater than 70%. Again audit committee and external audit are the least effective means to combat this type of fraud; it becomes imperative that the greater understanding of the control environment of the company will be critical to the detection and prevention of these fraudulent acts.

Thus, combating fraud in financial statements (earnings management, data falsification, omission of documents, etc.) highlights the role of external auditors and the audit committee of the company, possibly due to external consequences of such acts favouring third parties. However, it also verifies the important role of compliance and internal audit and internal controls of the company, possibly in a joint activity for mitigation and detection of fraud of this nature. Significantly, this complainant channels have lower effectiveness in their participation to curb fraud.

4.4 Knowledge and Experience to Investigate Frauds.

Past knowledge and professional maturity gathered from various areas of involvement in the service to an organization (strategic planning, operational executing procedures and monitoring controls, including ascertainment of management organizational cognition recapitulation, evaluation and reassurance for compliance and reporting) that make up a bulk of personal experience are quintessential factors for the detection of fraud.

Experience as a factor was discussed in Section 4.1 and the perception is that professionals have this competence. With regard to knowledge, this was assessed through specific issues to relevant skills. The results are presented in a standardized Likert scale, in the parentheses, for the following skills: technical internal controls (85.8%), the hotline (76.8%), accounting (70.0%) and research (69.0%). The 85.8% level of knowledge in relation to internal controls reveals a high professional standard, since the accounting knowledge and investigative techniques reveal some deficiency in relation to the requirement of the high standard of competence required of professionals working in the area audit and congeners.

Still related to the training of professionals who participated in the survey was also auscultated the training in direct activities to combat fraud. Similarly to the previous paragraph, the following results were obtained showing technical knowledge (56.3%), experience (53.2%) and legal knowledge (38.7%). Considering the standard Likert scale one can infer that both the technical knowledge and experience in combating fraud are at an average level, while the legal knowledge is below average.

The results cast doubt on the preparation of these professionals to perform their tasks. What looks most worrisome is the low level of legal knowledge which can compromise the work of fraud investigation, as professional does not have expertise to gather the evidence needed to file a lawsuit against the perpetrator of the fraudulent act or raise the legal implications of their findings. This paves way for deliberations on the emphasis yet to be given to forensic accounting in the curriculum of business schools.

5 CONCLUDING REMARKS

This research examined the exposure of the business environment to corporate fraud, taking the perception of 156 professionals who work in auditing and internal controls. Thus, borrowing a leaf from the research question that is based on rallying round the interrogation

on which procedures are deemed appropriate or not in the internal control procedures to mitigate the risks of fraud in organisations, in the perception of respondents, in general, all activities of internal controls have the ability to combat fraud, but their effectiveness varies according to the type of fraud that is being targeted. The main conclusions were condensed following the pillars of the activities of the internal control system (ICS) aimed at curbing risk of fraud namely: audit committee, compliance, complainants channel, internal audit, external audit, management of internal control systems.

Audit committee

The essence of the work of the audit committee is to monitor the activities of the internal and external audits with particular attention to the monitoring of the ICS of the organization because its members together with senior management are responsible for the governance of the organisation and dissemination of results to the stakeholders at large. However, the results of the study revealed that the audit committee is effective only for combating fraud in the financial statements - accompanied by an external audit. This attitude may indicate a loosening effect of the job of the committee in monitoring the implementation and periodic review of the ICS itself.

Compliance

Best practices, legal requirements, regulations and internal rules stimulated the need for an area that would monitor compliance in accordance to the requirements of the organisation and its employees. For this reason, the compliance activity has become helpful in combating fraud in the range of the three categories of the Tree of Fraud namely: corruption, misappropriation of assets and financial statements fraud. Even with the high evaluation for combating fraud, the efficiency of the compliance area does not relief the company from fraudulent acts; however, it is the main area of a need of enhancement in ICS. Noteworthy, that for the compliance functions to be up and doing as an important instrument in corporate governance, it is necessary that it reports to the board of directors or to the audit committee.

Complainants Channel

As the perception of the respondents, the channel for complaints is one of the activities with high efficiency in fighting corruption and fraud; and misappropriation of assets and of medium efficiency in combating fraudulent financial statements. These assessments are aligned with the research conducted by professional associations, which argue that the channels of anonymous reports are tools that most discover fraud in the world (ACFE, 2012b p. 19; PwC, 2011 p 25; E&Y, 2010 p. 22).

In the case of fraudulent financial statements the complainant channel was rated as average efficiency, this allows a possible argument that fraud in the financial statements are mostly perpetrated with the interference of senior management that uses his authority, to inhibit existing controls. In light if this, the anonymous reporting channel, once properly deployed becomes essential for the detection and mitigation of fraud in financial statements.

It is suggested that the activities of the hotline or complainant channel as you like it be accompanied by the audit committee, ensuring wide dissemination of the channel, ensuring its operation to guarantee the anonymity of whistleblowers by checking the distribution of the complaints process and the synergy between the areas of audit and internal compliance.

Internal Audit

The internal audit was well evaluated by respondents with high efficiency in combating fraud, as internal control tool, i.e., conventional jobs also been effective. Internal audit was also well evaluated as monitoring tool for ICS, which combines all the functions of internal checks

and balances and internal audit added to conventional approaches to control assurance. Also, hold the responsibility of the investigative audit tools, continuous auditing and monitoring of suspicious transactions, to combat fraud, corruption, misappropriation of assets and fraudulent financial statements.

The results, according to the perceptions of professionals who participated in the survey are in line with studies conducted by professional associations and researchers regarding the accountability and efficiency of the Internal Audit Function (IAF). With the exception that, according to research conducted KPMG (2009, p. 19) there is the need for reactivation of the tasks of internal audit to combat fraud, as well as training of its staff, or hiring professionals who have the knowledge necessary to conduct and investigate fraud.

External Audit

The external audit has only high efficiency for detecting fraud in financial statements. This fact occurs because the activities are directed and/or limited to the proposed scope, which almost and always refer to the compliance of standards and evaluation of accounting procedures, which has as a background the assessment of ICS of the client companies to the level that it mitigates the risks of error in the financial statements. Observe that the level of acceptable error is complemented with the substantive test.

Even though the external auditors are not primarily responsible for detecting fraud, except in cases that have material effect on the client's financial statements, audit firms are agents responsible for the reduction of informational asymmetry. In this light, have to constantly assess what the scope of their works are, and contemplate the expectations of the general users of financial statements while meeting the expectations of their client at the same time.

It is understood that the external auditors should evaluate the need to improve their skills in relation to corporate fraud, whether with the training of the whole staff or with the presence of experts in fraud investigation in their teams as there are social and civil responsibility in the performance of their functions. We emphasize that in many cases, audit firms end up being sanctioned or fined by the regulating bodies for signing a fraudulent financial statement as a result of a shallow audit procedure that let loose fraud in financial statements.

Management of Internal control systems

Internal controls were highly rated with high efficiency in all three branches of the Tree of Fraud. However, it is worthwhile highlighting the wordings of Wells (2008, p 337-338) as he comments the results of research conducted by the ACFE in 2006:

Fraud in the financial statements are more complex than those of the other two categories of the Tree of fraud, since the traditional internal controls are unlikely to be effective in detecting and mitigating, since 83% of the perpetrators of the fraud were the CEO or CFO victims organizations and use their authority to manipulate and / or replace existing controls.

Based on these considerations, it is suggested that those responsible for managing internal controls, in addition to knowledge of the processes, operations and business environment in which the company operates, should also pay attention to regular monitoring of the operation of each control activity, with a view to influencing the control culture and also maintain an alert on the fraud culture within the organization.

Finally, we understand that this study sought to dive into a sensitive topic of corporate fraud taken both the academic and professional perspective, with an aim to providing subsidies to whoever it is to control the risks of fraud and also to the regulatory bodies to monitor fraud in the interest of users of financial statement. As a way forward for further studies, we suggest for the academic and regulatory element on the topic to embrace the following:

- ✓ An in depth discussion of the topic of corporate frauds in corporate media, and academia where generally, the subject is normally a taboo;
- ✓ Raise and discuss techniques for investigating corporate fraud used in the Brazilian business environment with a view for their improvement;
- ✓ Discuss the inclusion and coverage of the subject in the curricula of code of ethics covering corporate fraud in management courses.
- ✓ Highlight the importance of professional of forensic accounting to assist judges to better position themselves in court proceedings involving litigations of corporate fraud investigation.

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