

UNIVERSITY OF GHANA

COLLEGE OF HUMANITIES

EFFECTIVENESS OF FRAUD PREVENTION AND DETECTION MECHANISMS:

ACCOUNTANTS' PERCEPTION

BY

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DECLARATION

I do hereby declare that this is a presentation of my original research, and that it has not been presented by anyone for any academic award in this or any other university. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature and with proper attribution to the authors.

I bear sole responsibility for any shortcomings.

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CERTIFICATION

I hereby certify that this long essay was supervised and coordinated in conformity with the duly laid down procedures of the University of Ghana.

.....

DR. GODFRED MATHEW YAW OWUSU

(SUPERVISOR)

.....

DATE

DEDICATION

I dedicate this work to my mother; Eunice Wolanyo Nani, for the invaluable contributions and unrelenting support she offered me throughout the entire duration of this MSc program. I am eternally grateful.

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LIST OF ABBREVIATION

HI	Highly Ineffective
MI	Moderately Ineffective
SI	Slightly Ineffective
NEI	Neither or Either Ineffective
SE	Slightly Effective
ME	Moderately Effective
HE	Highly Effective
BOG	Bank of Ghana
SAS	Statement of Auditing Standards

ABSTRACT

The upsurge in fraud and the existential threat it poses to the corporate organisations has spurred the interest of many academics, accountants, auditors and investors alike. The failure of audits to detect fraud have resulted in the has called the integrity of the accountancy and the audit function profession, resulted in lawsuits and set many corporate executives on the path to find the most appropriate methods to address same. This study presents an examination fraud detection and prevention mechanisms used by organisations in Ghana, as well as the perception of accountants of their effectiveness. The research was carried out via s survey, with questionnaire administered to 99 accountants and auditors. Analysis of the results indicate that accountants in Ghanaian organisations perceive the use of appropriate oversight processes as effective in the prevention of fraud, with the highest mean value of 5.11. Delving into these processes further reveals that external audit as the most highly perceived as effective. This corresponds to the results of the type of mechanisms used, where the appropriate oversight processes again emerge as the highest in use and technological applications was the least used. Practical implications for this in Ghana points to a lag in the adopting technological applications in the prevention and detection of fraud. With the increased adoption if technology in business and the attendant risks it presents, it will be useful to explore the benefits and the costs in the bid to address emerging risks in that area.

CHAPTER ONE

INTRODUCTION

1.1 Background of the research

The phenomenon of fraud is one which plagues many organizations across different industries of varying sizes around the world. Of 2690 cases studied globally in 2018, the Association of Certified Fraud Experts (ACFE) Report to the Nations, point out that the incidence of fraud resulted in an average loss of \$2.1million, with the total loss of \$7 billion. It's further estimated that up to 7% of global organisational revenues could be lost through fraud. It represents an increase from 2016, where of the 2,410 cases of occupational fraud studied, losses exceeded \$6.3 billion estimated at 7% of corporate annual revenue worldwide; with asset misappropriation being the most frequently occurring.

The seriousness of fraud is emphasised by Schmalleger (1991), who poignantly asserts that “More money has been stolen at the point of a pen- than at the point of a gun”. In Ghana, the central bank reports that the monetary values of fraud cases (both successful and unsuccessful) for the year 2016 aggregate to Ghc244 million. At this rate, fraud has the potential of “inflicting substantial damage from the individual, organizational and community and even national levels” ((Lanham, Weinberg, Brown & Ryan 1987) and is consistent Greenspan (2002) who addresses fraud as an existential threat to capitalism.

The incidence of fraud is becoming pervasive worldwide, and the impact is not limited to the direct victims, but there are indirect consequences including diminishing faith in the organisation, loss of confidence in the market mechanisms and an erosion public morality. (Vasiu et al, 2003).

The responsibility of auditors for the detection of fraud has evolved from the initial position as documented in the famous ruling of Lord Justice Lopes, in *Re Kingston Cotton Mill Company* in 1986, in which he stated that “An auditor is not bound to be a detective, or ... to approach his work with suspicion, or with foregone conclusion that there is something wrong. He is a watchdog, not a bloodhound”, due to the numerous scandals which have rocked the profession in recent years. This new orientation has influenced the level of reliance placed on various methods. Per Moyes and Hasan, (1996), the experience, expertise and background persons on an engagement constitute the most effective tools in the discovery of fraud.

However, Krambia-Kapardis M. (2002) argues that audit and accounting experience alone are insufficient to turn one into a fraud expert, the deployment of complementary tools and method will prove useful in its detection.

The likelihood of corporate value being wiped out due to this menace points to the need for appropriate steps to be taken to prevent, curb or mitigate or neutralize any threat it poses. Bierstaker et al (2006) posit that it is necessary that organisations establish an effective fraud prevention and detection method because it can reduce the opportunities of fraud from occurring. However, any mechanism to be implemented must meet the minimum effectiveness test, in order for the cost of implementation to outweigh the costs.

Effective internal control can help companies achieve established financial goals, prevent loss of resources, keep accurate recording of transactions, and prepare reliable financial statements (Ernst & Young 2002).

1.2 The Concept of Fraud

It is important to clearly define fraud though it manifests itself in many forms. This position is supported by Vasiu, L, Warren, M & Mackay, D (2003), who in their discussion of fraud from an information systems perspective, posit that the definition of fraud” is an important early step of a detection and prevention programme”. It is imperative to also clearly define the type of behaviour one is desirous of preventing in order to avoid any ambiguities (Smith 2001).

Fraud is as much a legal concept as it is an unacceptable social construct. (Stephen 1883, p. I.28), suggests there arises a difficulty, whenever the concept of fraud is to be defined. This difficulty emanates from the plethora of activities which the terms could be practically applied. (Kirk & Woodcock 1992). It differs from the regular theft, and always contains an element a false representation to the victim. All fraudulent acts deliberate, and involves the making of false statement, made with the intent to annex what belongs to another. (Brenner 2001). A principal purpose of a definition is to ensure certainty and consistency and create a common understanding among the readers or audience. (Goldstein et al. 1974).

The definition of could be looked at from a number of perspectives, namely the scholarly legal and dictionary dimension.

According to Smith (2001, pp. 1-2), “In legal terms, fraud is a generic category of criminal conduct that involves the use of dishonest or deceitful means in order to obtain some unjust advantage or gain over another.”

Zergo (1992 p. 199) in recognizing the fluidity of the concept describes it simply as “fraud is the art of deception for gain” and proceeds to state that its form “changes as society changes with attitudes and technological advancements.”

The term “fraud” is defined in Gilbert (1997, p. 124) as An act using deceit such as intentional distortion of the truth of misrepresentation or concealment of a material fact to gain an unfair advantage over another in order to secure something of value or deprive another of a right.

Black's Law Dictionary (8th ed. 2004, pg.1950) defines it as: A knowing misrepresentation of the truth or concealment of a material fact to induce another to act to his or her detriment. A misrepresentation made recklessly without belief in its truth to induce another person to act.

An alternate definition by the Merriam - Webster (2003) :” deceit, trickery specifically : intentional perversion of truth in order to induce another to part with something of value or to surrender a legal right”.

Consistent with Huntington and Davies (1994) and French (1985) the various definitions shows a common theme of deliberate and wilful conduct on the part of one party through suppression or concealment of what is true, which is targeted at misleading another the to do things to their detriment, usually in the nature of parting with possession of items of value.

Fraud is manifested in many forms and stem from diverse relationships which exist between the perpetrator(s) and the victim organization. Examples include crimes carried out against investors business and employees by businesses in the form of falsifying financial statements, and not remitting statutory deductions made from payments to employees. Fraud is also demonstrated by employees against employers in the form of theft of copyrighted material, falsification of expense claims.

Using the framework of the ACFE which is the world’s largest provider of fraud training and education to stratify, fraudulent conduct in the context of organisations are grouped into Asset Misappropriation, Financial Statement Fraud and Corruption. The categorizations allow for a

consistent grouping of the main forms of occupational fraud in order to allow the for minor forms to be sub grouped under them.

Asset Misappropriation relates to various schemes which an employee or third party steals or misuses the employing organization's resources. This captures theft of company cash and cash receipts, false billing schemes, or inflated expense reports, payroll schemes, (including ghost names and falsified wages) and other fraudulent disbursements.

Another manifestation of fraud is in the form of Financial Statements Fraud. The American Institute of Certified Public Accountants (AICPA) define it as an intentional act that results in an incorrect material statement to the financial statement. It pertains to the deliberate manipulation the accounting principles, timing, information used in the preparation of financial statements and/or the manner in which financial statements are prepared in order to present a condition of an entity which is different from its real condition. This manifests in the form of the inflation of assets and revenue through early recognition, and the suppression of expenses and liabilities. These acts could also be done in reverse also, in the bid to avoid incurrence of legitimate liability in the form of taxes. The essence is to mislead or give a distorted view to others based on the amounts presented and disclosures made (Rezaee, 2002).

The origins of fraud can be traced back two millennia in 360 B.C when Xenothemis and Hegestratos, in the bid to exploit the corn market, connived to take the monies of corn buyers, devised a scam to sink their empty boat, not deliver the corn, yet keep their funds. History has it that, though the scheme was botched, they attained infamy as having committed the world's first recorded white collar crime.

Subsequent to this, the corporate world has witnessed many corporate scandals which stem from fraudulent conduct which manifest the many dimensions of fraud. The Enron scandal, which is the reference point in corporate financial fraud, was a specific case in point where dubious accounting practices and fictitious transactions created an illusion of higher profits and resulted in the wiping off of corporate assets in excess of \$60 billion in 2001.

On the African continent, a PriceWaterhouseCoopers investigations into the financials of retail giant Steinhoff, uncovered an endemic culture of profit overstatement backed by false transactions over a nine-year period from 2009 to 2017.

Ghana has witnessed significant turmoil in the financial sector with the withdrawal of licenses and the consolidation of some commercial banks and financial institution, with the attendant pecuniary and social costs. In spite of some litigation, the extract of the administration report of one of the said banks point to complete erosion of shareholder balances, overstatement of loans, exclusion of customer deposits from prudential reporting and the substantial impairment of assets. Regulatory laxity coupled with improper financial reporting practices obscured these transactions until they came to light. The schemes utilized include the fraudulent receipt of international remittances, hacking of accounts to transfer funds and transactions involving cloned and stolen cheques as well as suppression of customer accounts. This development emphasizes that the deployment information technology tools in business delivery could have implications for the perpetration of fraud.

The accounting and auditing profession has cemented its credibility on the ability to objectively determine the true and fair view of an entity's operations. According to the Committee on the Financial Aspects of Corporate Governance, 1992, p.36), audits are expected to provide an assurance to all parties with a financial interest in an entity. Power,1999, as emphasized by Sikka,

2009, also theorize that external audits serve to persuade investors that managers are not corrupt and will be held accountable.

Though audit literature confirms that the auditor does not guarantee the financial statements, the incidence of corporate failure therefore results in a denting of the image of the accounting profession. The tacit endorsement, deliberately ignoring and/or the inability to detect fraudulent, have had calamitous consequences for both accounting professionals with such occurrences. The penalties range from millions of dollars such the £4.8million fine against KPMG in the Miller Energy Resources Case in 2011, the 5.1million fine against PwC in 2017 regarding the RSM Tenon Audit in 2011, £4.2million of Deloitte in the Serco-Geografix scandal in 2019, to the dissolution of a century old Arthur Anderson in the Enron Case.

Design and execution of fraud demands a deep understanding of the operations of the firm or industry and high sense of creativity. This is consistent with the PwC 2018 Global Economic Crime Survey of 7200 participants which found that the proportion of crime committed by internal actors had risen from 46% in 2016 to 52% in 2018. Evidence from the ACFE report to the nations and the PwC Economic Crime Survey 2018 editions confirm an increase in the proportion of financial frauds perpetrated by executives from 16% in 2016 to 24% in 2018. The ACFE study also found a high correlation between the level of authority of the fraud and the severity of the loss to the victim organisation.

Chapple & Mui, 2017 and Akhidime EA (2018), avers that the multiple incidents of fraud and the high success rate of the perpetrators point to audit failure which pertains to the existence of material errors in the financial statements, and the failure of auditors to identify same, resulting in the issue of an opinion which is could not be farther from the reality.

Research points to some triggers for the increased spate of fraudulent behaviour. In examining corporate competition and fraud waves, Wang and Winton (2002) argue that the propensity of financial fraud is more cyclical among competitive industries and more pervasive in industries where relative performance evaluation influences managerial retention decisions. Narayanan, 1985; Stein, 1989; von Thadden, 1995), further theorize that the intensity of the competition fuels managerial myopia and takes focus off the creation of long-term value for shareholders. Button and Cross (2017;p. 1) also argue, that in spite of technological advancement and its contribution to the prevention of crime, the innate desire of miscreants to commit fraud has not been quenched, but altered to reflect the changing times. This evolution has given rise to cyber-enabled and cyber-dependent frauds and the industrialization of old forms of fraud.

These occurrences bring to fore the need to investigate the most effective mechanisms for the prevention and detection of fraud to enhance the capacity of the for accounting professional to better serve their organisations and audit clients to boost investor confidence in the accounting practice.

1.3 Fraud prevention and detection:

Prevention encompasses the holistic set of approaches and steps set in place to ensure the non-occurrence of an event. The objective of prevention is to inhibit or hinder a person from embarking on an activity. Prevention mechanisms will thus encompass preemptive defensive steps taken by an organisation to secure its assets, and will involve actions such as the restriction of unauthorised access to property via physical, electronic means, strict usage policies, principles and codes of conduct or a combination of these.

Due to the evolving nature of fraud and the unending creativity and persistence of criminals, it is not uncommon for attempts to be made to breach arrangements made with a view to secure assets. It is the researcher's contention, that preventive measures are insufficient, but ought to have a layer of detection should breaches occur. The interaction of the preventive and detection mechanism is manifest as the likelihood of detection serves as an extra disincentive for would-be perpetrators.

1.4 Statement of the Problem

Fraud is one of the most besetting crimes affecting the world of business today. Its impact could easily trump certain types of street crimes (Rebovich & Kane 2002).

Given the persistence, and the enormity of present and potential damage that the occurrence of fraud cause, it is pertinent the accounting body of knowledge devise potent methods to prevent them from occurring and detect them should they occur. Research literature is replete with fraud prevention research on a global scale often influenced with Eurocentric or western influences.

In spite of the many countries acceding to the IASB's International Financial Reporting Standards and International Auditing Standards, Leonard, K.M et al (2010) argue that the practice in individual countries may have their own local nuances on the professional practice.

Pioneering works of Owusu Ansah et al (2001), Salameh et al (2011) and Othman et al (2015), dwelled heavily on the use of audit procedures in the in preventing and or detecting fraud and appear to ignore alternative mechanisms and how effective they could be at dealing with the issue of organisational fraud.

Like a constantly shifting goal post, perpetrators of organisations continually evolve new ways to outsmart measures implemented to check and identify their operations. There are numerous methods deployed by organisations, accountants and auditors to deal organisational fraud.

However, it will be efficient to commit resources to only the methods which are proven as effective. The absence of knowledge generated and shared on the measures as influenced by local nuances which are perceived by primary players like accountants and auditors as the most effective in addressing this scourge remains a persistent difficulty.

1.5 Purpose of the study

The main purpose of this research study is to investigate which fraud prevention and detection mechanisms deemed by accountants as most potent, and to identify which ones are currently deployed by Ghanaian organisations in addressing the situation.

1.6 Research Objectives:

With the above purpose, this research work seeks to achieve a number of objectives.

1. To ascertain the fraud prevention and detection mechanisms deployed by firms in Ghana
2. To examine the perception of accountants on the effectiveness of fraud prevention and detection mechanisms in use in Ghanaian entities.
3. To examine the relationship between perception of fraud occurrence and staff level, business function and length of employment.
4. To make recommendations for the adoption of the most effective fraud prevention and detection mechanisms to protect corporate assets.

1.7 Research Questions

1. Does the accountant's level of experience influence his/her perception of effectiveness of a fraud detection/prevention mechanism?

2. To what extent does the accountant's level in an organization influence his perception of fraud prevention/detection mechanisms?
3. Which type of mechanisms do accountants find most effective at deterring/ detecting fraud?

1.8 Statement of the Hypotheses

To determine if significant perception differences occur among the respondents based on their specific characteristics on the effectiveness of the various mechanisms on the basis of sector of organisation, size of organisation and qualification of respondent.

According to the findings of prior research, and based on the study aim and objectives, the following hypotheses can be formulated:

Hypothesis 1: There is no significant relationship between the level of an accountant in the organization and the perception of effectiveness of a fraud detection mechanism.

Hypotheses 2: There is no significant relationship between the experience of an accountant and the perception of effectiveness of a fraud detection mechanism.

Hypothesis 3: There is a relationship between the size of an entity and the perception of effectiveness of a fraud detection mechanism.

1.9 Significance of the Study

This research work portends a lot of significance for many major actors in the accounting profession such as accountants and auditors as well as their organisations alike. It will highlight the prevalent fraud detection and prevention mechanisms perceived as most effective by

accountants and auditors in institutions in Ghana. It will further inform external auditors on how to craft their audit procedures based on which fraud detection and prevention mechanisms are in place, which can contribute immensely towards the improvement in the quality of audits carried out. It will contribute relevant information to current literature on the fraud detection and prevention mechanisms in Ghana as influenced by local relative to what the trends are globally. It will inform organisations to make the appropriate investments into the most appropriate measures to minimize the occurrence and impact of fraud to their operations. Finally, it will set the tone for further inquiry into areas such as the determinants of the choice of measures deployed by organisations in the bid to combat occupational fraud.

1.10 Assumptions

The research assumes that the respondents have sufficient knowledge of and/or have sufficiently interacted with or experienced the fraud prevention and detection mechanisms present to them in the questionnaire to be able to assess their effectiveness. On the existence and use of the mechanisms, the assumption is that they have been rolled in the respondents organisation up to the unit where the respondent operates to enable them respond appropriately to the survey questionnaire.

1.11 Delimitations

In the conduct of the study, the researcher focuses on the accounting practitioners in the greater Accra region, which is the nation's capital and the students enrolled in the MSc Accounting and finance programme for the 2018 and 2019 academic years. This is informed by the number of organisations and the variety which will permit the collection of representative data. This approach may preclude the incorporation of responses of accounting practitioners domiciled in entities in

other regions of the country. Regarding methodology, the approach for data collections is by the use of structured and close-ended questionnaires which allows for the reach of a large number of respondents, and the collection of easily analyzable data.

CHAPTER TWO

REVIEW OF LITERATURE

Rationale, Theoretical or Conceptual Background/Foundation

Significant scrutiny has been given to examining fraud in institutional settings (Ashforth and Anand, 2003; Collins et al., 2009; Palmer, 2008; Zahra et al., 2005). Many theories also underlie such research, which provide some useful insights.

2.1 Classical Fraud Theory: The Fraud Triangle.

The earliest attempts to study the phenomenon of fraud can be traced to the works of Cressey in 1950. Starting on the premise that there ought to be a reasonable explanation for fraud, he interviews of criminals who had positions of trust and has violated same. The perpetrators alluded to specific factors such as personal financial problems, the existence of an opportunity to violate their positions of trust in the bid to solve those problems, and rationalization by the perpetrators. (Cressey 1953: 741)

This hypothesis posited by Cressey formed the basis for what is known as the fraud triangle theory.

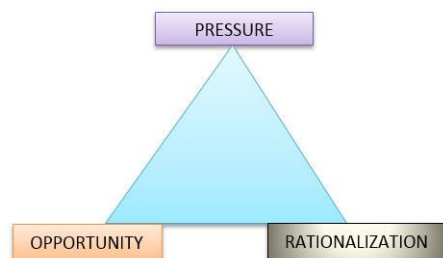


Figure 2.1: Fraud Triangle

Source: Wells J. T. (2005)

The Dimensions of Fraud

Perceived Pressure/ Motives/ Incentives

The pressure aspect of the fraud triangle pertains to the incentive which drives the perpetrator to commit a fraudulent act. Studies indicate that 95% of all frauds involve either financial or vice-related pressures. (Albrecht et al, 2012). The most frequently cited pressures which inure to the benefit of perpetrators directly include greed, living beyond one's means, high bills and personal debt, unexpected financial losses. Vice pressures are very powerful incentives. They usually arise out of the need to fulfil very compulsive desires which can be very difficult to tame. Such pressure manifest in gambling, drugs, alcohol and expensive extramarital relationships.

Incentivized fraudulent behaviour could also stem from work related pressures. Employees and corporate executives feel pressured to do whatever is necessary to obtain recognition, get a promotion, to overcome the fear of losing one's job and to outdo competition or appear to healthy to regulators.

A study into the application of the Fraud triangle to Libor manipulation revealed that managers and executives internalized the financial objective of making profits such that, Under stress to perform and meet financial analysts 'expectations, crime may become an attractive option to mitigate the pressure of the banks to achieve their expected profit. The burden to perform to meet the expectations of analysts made the resort to crime became attractive option (Lokanan & Sharma 2018). This conduct lends credence to the argument by Merton (1938), that the imposition of rules places premium on illegitimate conduct and that the persons on whom pressure is exerted to attain goals are likely to be involved in criminogenic behaviour. Other academics have drawn a correlation between the intensity of financial difficulties, pressure and the probability of the

engagement in a fraudulent behaviour. (Cohen et al., 2008; Faber, 2005; Erickson et al., 2006; Johnson et al., 2009).

Non-financial and non-vice motivations also result in criminal behaviour. In the specific case of Bernie Madoff, the need to continue to appear successful drove him to generate fictitious returns. The thrills of the crime are another important element of which drives egocentrics to commit fraud. (Albrecht et al, 2012).

Pressure is not always a negative force. Hooper and Pornelli (2010) argue that pressure can be harnessed when goals are attainable as it engenders creativity, competition and efficiency. Pressure becomes destructive when it translates into an obsession when unrealistic goals and targets are set and employees become convinced that the reward for their actions will be based on the result and not the means by which they are achieved. (KPMG 2008–2009 Integrity Survey). It is noteworthy that such pressure could be self-imposed or be brought to bear on the perpetrator by the conventional practices in the corporate environment. Vona (2008).

Opportunity to Engage in Fraud

Regardless of the amount of pressure a person is subjected to, financial statement fraud and other forms of fraudulent conduct cannot occur unless the potential perpetrator spots an opportunity. Hooper et al. (2010). The opportunity denotes the existence of a weakness which could be exploited to permit the fraudulent intent to materialize into action. Weakness do not have to be real, they could be perceived by the perpetrator in the belief that they could take advantage of. (Kelly and Hartley, 2010), Rae and Subramanian (2008). Albrecht et al, 2012, identify lack of controls that detect or prevent fraud, inability to discipline fraud perpetrators, inability to judge quality of performance, lack of access to information, ignorance, apathy and incapacity as well as

the lack of audit trail as important elements which give rise to the perception of weakness of controls, hence the opportunity to perpetrate fraud.

Related party transactions, irregular audits, CEO domination, ineffective monitoring due to weak directorship and CEO duality are among other elements identified as pointing to the inherent susceptibility of an organization to fraud. (Chen and Elder (2007) Abdullahi et al(2015), Fazli, Mohd and Muhammad (2014). It must be stated that the tact required and exploit a weakness can be based on the complexity or sophistication of the control mechanism in place as well as the level of familiarity with the controls, which is invariably influenced by the length of time the perpetrator has encountered the said controls (Ewa and Udoayang (2012).

Rationalization

The final element of the fraud triangle theory is rationalization. When fraudulent behaviour such as the manipulation of financial records and misappropriation of financial records occur, the persons involved operate in with a mindset which permits them to justify the criminal act as a legitimate thing to do (Hooper and Pornelli, 2010). It points to a numbness of the perpetrator's ethical code to the violations being engaged in. Rae and Subramanian, (2008) observed that individual's ethical values and the circumstances influence the likelihood of a person to commit fraud. Common rationalizations of fraudulent behaviour include "I deserve more", "It's for a good purpose", "I am only borrowing the money and will pay it back.", "We'll fix the books as soon as we get over this financial difficulty." (Albrecht et al, 2010,2012).

The recognition of the interaction of these three elements as being fundamental to the occurrence of fraud has been reflected in a number of regulatory reforms. As the Commission of the Treadway Committee in 1987 puts it, If the right, combustible mixture of forces and opportunities is present,

financial reporting may occur”. In 2002, the Statement of Accounting Standards 99; Consideration of Fraud in a Financial Statement Audit, which superseded the 82, was issued in response to the financial statement scandals which occurred at Enron, WorldCom, Adelphia, and Tyco. In 2009, the International Auditing Standards Board in revising ISA 240: The Auditor’s Responsibilities Relating to Fraud in an Audit of Financial Statements, acknowledged the role of the elements of the fraud triangle and charged auditors to assess the vulnerability of clients to fraud and to consider internal and external factors which may generate pressure and provide opportunities for fraud and provide an environment for persons to rationalize fraudulent acts.

Criticisms of the triangle

The fraud triangle has been subjected to scathing criticism. Krambia-Kapardis M, 2002, it does not account for the differences regarding the aetiology of fraud, and presents the elements as standalone and not as interactive. He the proceeds to formulate the Eclectic Fraud Model as an alternative. The model identifies the elements which must be present in a fraud, however it fails to conceptualize them as interactive.

The sharpest criticism has been that the theory does not provide an effective antidote to the occurrence of fraud in spite of the integration of the theory into regulation (Sikka, 2010a; Neu, Everett, & Rahaman, 2013; Free & Murphy, 2013; Cooper, Dacin & Palmer, 2013). While utilizing critical discourse analysis to assess the fraud triangle, Lokanan, Mark (2015) posits that the fraud theory cannot explain every occurrence of fraud, and that opportunity does not address collusive behaviour and management overrides; an assertion supported by Huber (2017). Morales et al. (2014) also argue that there could be several dimensions to financial crime and that, the fraud triangle theory only focuses on the morality of the perpetrator while ignoring social, organisational, legal and other contexts in which the act is carried out.

In spite of the validity of the criticisms, Lokanan (2018) suggests that the fraud triangle theory should be interpreted as a useful basis for analysing the reasons why people commit fraudulent acts.

2.2 The Fraud Diamond

The fraud diamond theory extends the fraud triangle theory by introducing additional dimensions. Put forward by Wolfe and Hermanson in the CPA Journal (December 2004), they argued that in addition to pressure, opportunity and rationalization, the fraud is incapable of occurring without the perpetrator possessing the requisite skill to execute same. Capability was thus introduced as the fourth element in the theory to arrive at the Fraud Diamond.

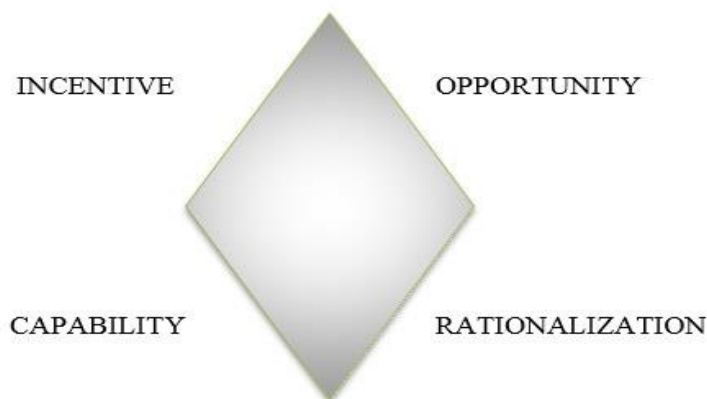


Figure 2.2: The fraud diamond

Source: Wolfe and Hermanson (2004)

Capability

The capability dimension is particularly relevant when the fraudulent act is large scale, is over an extended time frame and require some level of sophistication to execute. Albrecht et al. (1995) proceeds to contend that it takes a high capacity to sufficiently appreciate an existing control system enough to identify its weaknesses. The capability is broken into its constituents namely Position, Brains, Confidence, Coercion, Deceit and Stress.

2.3 The Fraud Management Lifecycle Theory

Wilhem, K.S (2004), presents the process of addressing fraud as a dynamic, evolving and adaptive one. He proceeds to argue that fraud management must hinge on an interconnected framework which encompasses fraud deterrence, fraud prevention, fraud detection, fraud mitigation, fraud analysis, fraud policy, fraud investigation, and fraud prosecution.

It further added that ignorance of the lifecycle or excessive focus on detection without a successful integration of the stages end to have a moderating effect on the overall effectiveness and efficiency of fraud management and exposes organisations to losses.

The theory brings a holistic perspective to the management of fraud and discourages a compartmentalized approach.

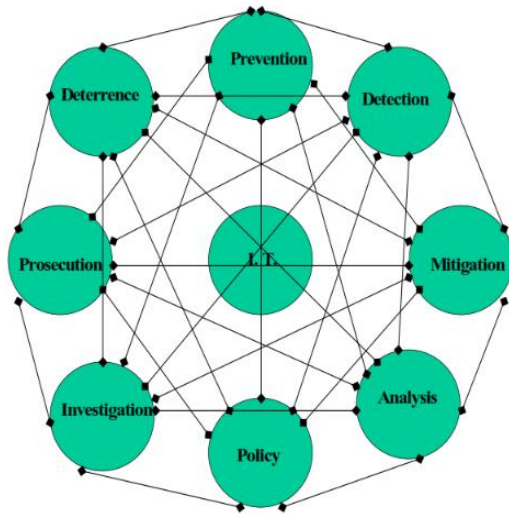


Figure 2.3 The Network Representation of the Fraud Management Lifecycle Stages

Adapted from Wilhelm, W.K (2004), The Fraud Management Lifecycle Theory: A Holistic Approach to Fraud Management. Journal of Economic Crime Management, Spring 2004, Volume 2, Issue 2

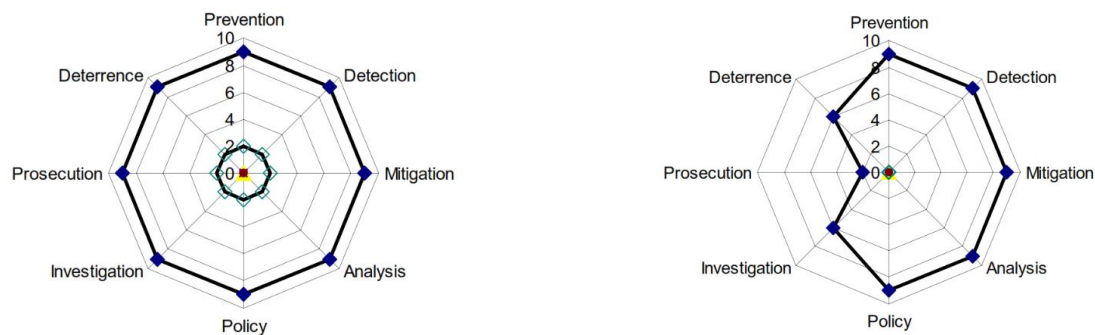


Figure 2.4 The Network Representation of the Fraud Management Lifecycle Stages,

Adapted from Wilhelm, W.K (2004), The Fraud Management Lifecycle Theory: A Holistic Approach to Fraud Management. Journal of Economic Crime Management, Spring 2004, Volume 2, Issue 2

Figure 3 shows a graphical representation of the interactions between the various nodes of the lifecycle and how imbalances cascade to create broad vulnerabilities. Imbalances created by the aspects such as deterrence, investigation and prevention as the illustration demonstrates indicates a scenario where fraud is detected and analyzed but very little implemented regarding fraud being detected but dealing with the perpetrators. Proponents of the theory emphasizes that any imbalance spotted could undermine the efficacy of the other nodes, hence ought to be addressed restore the integrity of the cycle.

The Life cycle theory is very intuitive and offering the new insights into the management of fraud, serving as a sustainable basis on which to ground fraud research. It emphasizes the need to take a comprehensive end to end approach to fraud management. However, it has been subject to criticism for the absence of a definitive basis resource allocation to the various stages of the lifecycle.

2.4 Game Theory of Fraud Prevention and Detection

Many researchers have underscored the value of game theory in fraud and audit research. Fellingham and Newman (1985) in their pioneering work, used a strategic approach to model the interaction between auditors and auditees in issuing addressing misstatements in financial statements. They suggest that a proper application of the approach offers a potential to alter the evaluation of risks and minimize fraudulent reporting.

Shibano (1990) and Bloomfield (1995) further research incorporated a distinction between errors and irregularities on one hand, and the impact of imperfect information on of a manager's bad motives on fraud risk assessment.

Matsumura & Tucker, 1992, in setting their model on the theoretical foundations for the study of fraud point to a combination of agency theory (representing the relationship between auditors and the appointing board or shareholders) and game theory (representing the strategic moves of managers and auditors). The agency theory postulated by Jensen and Meckling (1976) and Schroeder (2011), sheds light on principal- agent relations and argue that information asymmetry results in self-interested behaviour on the part of agents, which may be detrimental to the interest of the principal. An attempt to overcome this asymmetry is what motivates the engagement of the services of auditors. (Subramaniam, 2006) suggests that the agency theory provides a rich theoretical framework for appreciating organisational design and processes from a principal-agent perspective. They posit that the incidence of financial statement fraud and its detection is a three-man game between the shareholder, the manager and the auditor.

Matsumura & Tucker further surmise that manager has a long term objective to gain from the commission of fraud, and the likelihood of success depends on which decisions the manager makes and the moves the auditor makes. The theory draws on a two-stage testing model by an auditor of a manager's transactions where an initial test takes into account the internal control environment. A further test becomes necessary based on the auditor's assessment of the reliability of controls and the extra cost required to relative to the fees. the (1990) The authors emphasize the use of multiple tests as an effective fraud detection mechanism, given that their research results showed a positive correlation between number of testing done and the detection of detection.

2.5 Empirical Review

2.5.1 Introduction

A great number of researchers have spent tremendous effort on the subject matter of fraud to gain sufficient insight so as to contribute towards its prevention and detection and mitigation. The literature review addresses the prior research while pointing to the distinctiveness of the present study.

2.5.2 Empirical Literature Review

One of the most cited research work in this sphere of work is that conducted by Owusu Ansah et al (2001), which sought to assess the measure of perceptual effectiveness of fifty-six audit procedures in detecting fraud. In the assessment, the authors also evaluated whether differences between the responses of staff of Big-5 and Non-Big-5 audit firms. The mean of the responses of the 110 were used and 14 of such were found to be more effective and 27 of the procedures to be moderately effective than the average audit procedure. The work focused on audit procedures and were restricted to the stock and warehousing environment in New Zealand and severely hampers its applicability in other sectors. The choice of using only audit procedures in the measurement precludes other mechanisms which are not audit procedure. A weakness stated by the researchers themselves assumed that the respondents were experts or had sufficient knowledge in the application of the procedures presented before them in the survey questionnaire. Alleyne et al (2010) adapted the questionnaire of Owusu Ansah et al, but focused on very small organisations and thus suffer from the same defects as mentioned above.

Another scholarly work was carried out in 2006. Bierstaker, Brody and Pacini surveyed 86 accountants, internal auditors and certified fraud examiners in an inquiry into the methods used by them in the prevention and their perceptions of same. Their approach was borne out of their concurrence with the criticisms of the existing approaches, which in their view does not adequately address the issue of organisational fraud. Their sample drew from participants in an MBA programme, local chapters of professional accounting bodies and from the Association of Certified Fraud Experts website. The respondents were presented with a number of mechanisms, to which they assigned score in a Likert scale. Results of their study indicate that the use of software and fraud procedures were the most mechanisms used by respondents. It was further revealed that the use of forensic accountants was the considered the most effective fraud combatting method, with the highest mean score of 5.86, but was the least used. However, a careful scrutiny of the questionnaire shows the options listed vertically and not classified into coherent groups for a more meaningful analysis.

Simha & Satyanarayan (2016), investigated the perception of forensic auditors on fraud detection and prevention methods and the role of technology in fraud. Employing the qualitative approach through the use of semi-structured in-depth telephone interviews, the researchers found a direct link between technology and fraud. The study determined its saturation point on interviewing eighteen participants. The limited number of persons engaged in the study limits its applicability, and the qualitative approach used brings subjectivity of the respondents to bare on the responses without allowing for an objective analysis of the responses. The study also dwelled immensely on the technology and fraud, ignoring the perception of the forensic auditors apart from mentioning that the methods are inadequate and ought to be improved.

Othman et al (2015), utilized structured survey questionnaires to solicit responses from a population of accountant and auditors in the bid to identify which methods are deployed to detect and prevent fraud and corruption in the Malaysian private sector. The study found the use of audit committees, fraud reporting and staff rotation policies were among the most utilized methods in the public sector. It also emerged that with respect to technology deployment digital analysis emerged the least used method, whereas password and firewalls were the most commonly utilized. The study clearly identified various mechanisms, but did not tease out the perception of effectiveness of such measures in the view of auditors and accountants.

Robinson (2018) employed both quantitative and qualitative approaches to analyze these mechanisms in a not-for-profit organisational setting. The mechanisms were classified into prevention, detection and combined prevention and detection methods. Quantitative analysis of the results revealed a statistically significant relationship between the methods deployed and fraud detection with the sample size of 109 Not-For-Profit organisations.

Other sets of researchers have look at the issue of red flags and their implications for detecting and preventing fraud. (Albrecht and Romney (1986) and Loebbecke and Willingham (1989). According to Efrim-Boritz and Timoshenko (2014), red flags represent checklists pointing to the likelihood of an illegal conduct. Adherents of the red flag maintain that individuals engaged in fraud schemes usually exhibit certain behavioral traits which could serve as early warning signals of their illegal activity. Such traits include living beyond one's means, financial difficulties, excessive unwillingness to share duties, unusually close association with a vendor or customer and a general attitude of unscrupulous behaviour. Dal Magro and Del Cunha (2016) reveal that whereas internal auditors were indifferent in their perception of the warning signs of fraud, they attributed greater importance to red flags which pertained to operation activities and internal

procedures. Gullkivist and Jokipii (2013) examined the perception of internal auditors, external auditors and crime investigators on the importance of red flags relative to fraudulent financial reporting and misappropriation of assets. It was found that internal auditors considered red flags to be of importance in detecting misappropriation than to fraudulent financial reporting. The red flag approach is useful in spotting signs, but this will most likely be when the fraud is either being committed or has been successfully committed. There is no direct impact on prevention or detection neither does it point to effective mechanisms for addressing it.

Porter & Cameron, 1987; Corderre 1999)) suggest that the most appropriate tools need to be deployed in the detection of fraud because of the difficulty its detection poses but does not address the subject matter of which methods to deploy and how effective the methods are perceived by the accountants or auditors.

2.5.3 Fraudulent Financial Statements

Intentional fraud caused through Financial Statement injures investor and creditors through the misleading financial statements. (Eliott and Willingham, 1980). Whereas unintentional errors could impugn the integrity, the International Standards on Auditing (ISA) No.12 and (SAS) No. 82 establish a clear dissimilarity with intentional acts. Worthy, (1984), Beasley et al., 1999 indicate that of the many forms of financial statement fraud, and classifies them into three main categories namely change in accounting methods, fiddling with managerial estimates of cost and accelerated or delayed revenue and expenditure recognition, all with the main objective of results suited for specific ends at the reporting period. Boner et al,(1998) provides an alternative taxonomy of financial statement fraud and categorizes them as fictitious revenues, (premature revenue recognition, misclassifications, fictitious assets and/or reductions of expenses/liabilities,

overvalued assets and undervalued expenses/ liabilities, omitted or undervalued liabilities (affecting expenses or assets), omitted or improper disclosures, equity frauds, related party transactions, frauds going the "wrong way" (those understating income and/or assets), illegal acts and miscellaneous (including consolidation related matters). They find the most frequently occurring of the above to be fictitious revenues, premature revenue recognition and overvaluation of assets and undervaluation of expenses or liabilities.

Investigations by Bonner et al. (1998), examined whether there is a higher propensity for auditors to be subjected to legal suits regarding some frauds than others. They proceed to hypothesize that the characteristics of a fraud which is later uncovered after an audit has a significant influence on the decision by attorneys of clients to litigate. This thought is rooted in the thinking that the attorneys become emboldened to litigate where there exists a higher likelihood of success, especially where the fraud frequently occurs and includes fictitious transactions. Implicit in this research is a certain burden of diligence on the part of the auditors in measures they adopt in the conduct of their audit. Multivariate analysis of 261 companies' data revealed that bigger firms were more likely to litigate with auditors on the discovery of post audit fraud and confirmed the hypothesis of frequently occurring frauds occasioning litigation. However, evidently absent was suggestions on specific measure the external auditors or internal accounting practitioners ought to take or implement to enhance the quality of work and increase the likelihood of fraud discovery or prevention should it exist.

With evidence from Greece, Spathis, C.T, (2002), investigates whether firm characteristics influence the likelihood of fraud being perpetrated in the financial statements. With the use of a number of accounting metrics such as debt to sales ratio, inventory to total assets, working capital and z-score, on a sample of 76 companies, it was evident that entities with higher inventory, debt

levels as well as low working capital similar forms of distress showed a higher probability of Financial statement fraud compared with those with more favourable ratios. The research was limited to publicly available financial statements and reached conclusions based on the basis of figures therein. It does not detail the views of the accountants or auditors which were involved in the preparation of those statements and does not mention the circumstances or mechanisms deployed by those organisations in the attempt to either prevent or detect those instances of fraud. Further it only utilizes ratios in determining the likelihood of a financial statement including fraudulent claims and does not analyze other factors such as the number of members of the board of directors, the rate of turnover of the financial manager, the type of auditor used and the frequency with which they are changed, auditors' opinions, the size of the company, the existence of company branches, inventory evaluation methods, depreciation methods.

2.5.4 Technology Applications and Fraud

The integration of computers into how business is carried out also present opportunities as well challenges in the prevention and detection of fraud. The complexity of the design and exponential increase in the volume of data generated by these systems have had a significant impact on the tools deployed in the in the prevention and detection of fraud. Automatic Intervention detection is one of such tools which can be deployed in the bid to identify fraudulent reports (Lindsay & Foote, 2004).

Technological proliferation in business organisations has brought to the fore terms such as computer fraud. Ernst & Young, 2002, argue that the term computer fraud is a misnomer, indicating that computers do not commit crimes, but the users. The emerging trend of computer-related fraud has compelled many nation states to promulgate legislation in the effort to stem the

tide. The U.S. Computer Fraud and Abuse Act defines it as “the use of computer or computer related technology, without lawful authority, with the intent to obtain property or services by false pretenses, embezzle or commit larceny or convert the property of another” found its way into business lexicons. These tools permit users to access computers from remote locations in order to perpetrate cybercrime, further exacerbating the detection problem, with attendant costs. (Etter 2001; Varney,2000; McKemmish 1999).

Rahman and Anwar (2014) and Jackson et al., (2010) point out that perpetrators of fraud use current technologies and tools, which makes fraud complex and challenging to detect or prevent. For fraud prevention and detections methods to be highly effective, they are usually targeted at aspects of operations with high likelihood of occurrence as may emanate from the design of a risk matrix. This has culminated in numerous research about red flags in fraud research. Richharia & Singh, 2002, who surveyed financial fraud detection methodologies suggest that whereas most electronic systems are effective against many types of fraud, they fall short in instances where new types of transactions which have not been built in as red flags, are used.

2.5.5 Corporate Culture and the Psychology of Fraud

The analysis discussed so far reveal that whereas the incidence of organisational fraud is heavily influenced by the opportunity or circumstances in the victim environment, it also hinges on the perpetrator’s thought processes in dealing with issues such the pressure on them and the ability to justify the offence to themselves that it is acceptable.

Murphy and Dacin, 2011, examined the psychological pathways to fraud with the view of offering an understanding and ways to prevent fraud. This dimension is a pertinent in dealing with fraud as it addresses the participants and their motivations, an approach which be useful in the

assessment of employees prior to their engagement as is consistent with Albrecht et al, (2012). It emerged that acquiescence to authority has a significant dampening effect on one's ability to make independent moral decisions when faced with dilemmas on right and wrong. In working environments where there exists a strong command and control structure, or subordinates exhibit naivety, it increases the propensity to carry out fraudulent acts with instructions emanating from a superior. Instances of such conduct was evident in court, where Scott Sullivan (WorldCom CFO) affirmed that Bernie Ebbers (his supervisor and CEO) let him know, "we need to hit the numbers", when talking about the financial statements (Latour and Young, 2005). A few previous CFOs at HealthSouth affirmed that Richard Scrushy, their supervisor and CEO, "overseen significantly by dread and terrorizing" (Stuart, 2005), and would not acknowledge money related articulations except if they met gauges (Beam, 2009).

Another important element which influence the thinking of participants in organisation fraud is organisational climate and culture. This reflects the unique ways in which work is executed in the enterprise, (Victor and Cullen, 1988). An environment characterized by a predominantly bullish behavior conditions the minds of the staff that it is normal to take significant risks so long as it or the potential outcomes can be construed as being beneficial to the course of the organisation. Victor and Cullen, 1988, describe such an environment as egoistic, as opposed to the principled environment where adherence to ethical principles is predominant and encouraged. In such environments, staff may engage in financial statement fraud as a means to meet analyst forecasts. Being mindful of the tradeoff relationship between risk and return, and the implications of poor company performance on stock prices, executives will tend to exert themselves in "cooking the books" in instances where their compensation is tied to stock prices.

Kroeber and Neck, (2006), explored another aspect of organisational culture, religion, and its impact on fraud. They proposed that organisations which adopt or attempt to incorporate religious practices into their operations are more likely to be exposed to fraud. The basis for this proposition is that such environments are likely to breed blind trust and stifle creativity because all staff are likely to be cowed to tow a homogenous line; a point that agrees with Schwartz & Huismans, 1995. This position is however rebutted by Albrecht 2008, and avers that persons who subscribe to religious devotion are altruistic and adopt the golden rule which enjoins them to treat others as they expect to be treated; and proceeds to cite examples from many religious sects to buttress the point.

2.6 Methods of Combatting Organisational Fraud

There exist diverse ways in which business organisations attempt to deal with the issue of fraud. For the purposes of this study, the mechanisms surveyed as currently used by businesses are classified into four main groups namely Creating a culture of honesty, Process controls and the use of appropriate oversight processes.

2.6.1 Creating a culture of honesty

Creating a culture of honesty is a very fundamental way entities can address the issue of fraud. Within this broad term are many elements. One such is setting the ethical tone at the top, establishing an ethical code of conduct, training staff on ethics, conducting proper background checks on employees and engendering a positive working environment. Albrecht and Albrecht, (2012) remark that honesty can be reinforced when the right example is set. Management of organisations demonstrate the detestation of dishonest behaviour by example and make it sufficiently clear that such conduct will not be tolerated. Rubasundram, (2015), job security

matters most to employees, and that training improved the culture of empowerment and presents a dampening effect on the propensity to commit fraud. It further found emerged that setting up internal controls to prevent fraud can only be highly effective if the tone at the top is strong and the controls are not overridden by executives.

2.6.2 The use of Process Controls

Many organisations implement controls in their various functions. Process controls come in many forms. Internal control, instituted for assuring of an organization's objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations and policies is one. It also covers specific activities which are carried out by accountants and targeted at preserving the assets of an entity. Examples include the use of accounting ratios, inventory observation, employee monitoring, bank reconciliations and separation of duties. Some studies have suggested that it is reflect the elements in the fraud triangle with the use of financial ratios. Hadian N and Daniel, T.H (2013), point out that the elements of pressure can be represented by financial leverage, return on assets as a proxy and profitability targets, while the opportunity is represented by the ration of independent board members to the total number on a company's board. The efficacy of financial ratios resulted in their recommendation by the Treadway Commission. Barra, R.A. (2010), established that tighter internal controls have a positive correlation with an increase in the minimum amounts stolen when a fraud occurs. In this regard, extra tight controls may incentivize perpetrators to maximize their "gains" when an opportunity exists to commensurate the risk of being found out.

2.6.3 The Use of Technological Applications

Increased involvement of technology in business has resulted in the creation of methods which can be applied in preventing or detecting fraud. Elements of this approach include data mining, use of passwords, firewalls filtering software and digital analysis.

Data mining involves the practice of examining large pre-existing databases in order to generate new information. Organisations which generate large volumes of data organize them into very large data bases. These sets of data in a matter of time can be analyzed for hidden patterns which reflect normal transactions. Mining algorithms are subsequently developed to crosscheck all new transactions against the existing data with a view to identify hidden patterns which do not conform with the existing ideal of a normal transaction, thus spotting fraud. Sharma and Panigrahi (2012) lament the failure of internal audit and traditional and standard audit procedures are insufficient in to detect fraud. The critique of data mining in instances where the technique of fraud does not have any relevant preexisting information to compare with real time detection becomes compromised.

Passwords are also a very common technological tool used as a protection against fraud. This method uses a combination of keys to ensure only authorised entry or access to specific information or assets. (Gerard et al., 2004), observed the inverse relationship between the length of a password and further exposure to risk. For firms with password usage, the recommendation is to have them changed every one to two months.

Installation of Firewalls

Firewalls are security systems installed by built to prevent unauthorized access to a private network. They act as barriers between the public internet and an organisation's internet

infrastructure. They typically protect against the intrusion into an organisation's systems to steal proprietary data which will include information and other confidential information which may harm the entity's interest. They come in the form of software firewalls which can be installed on computer, and hardware firewalls which mask internet protocol addresses so they cannot be accessed by external hackers.

Filtering Software

Filtering applications are another set of tools utilized by businesses in the prevention from fraud. Predominantly used by e-commerce enterprises, they are used to deny access to existing or potential clients with undesirable characteristics. In built fraud analysis packages set with defined rules continually search for elements such as customers, credit card numbers, email addresses which bear potentially fraudulent attributes and prevents them from gaining access to the organisation's internet platform as well as warn the host of the dangers posed.

Digital analysis

This type of is part of automated detection methods which are based on Newcomb-Benford's Law also known as the first digit law. It involves analyzing the first numbers of a given set of data to identify the percentage with which they occur. The Law suggest for higher order numbers, the number 1 should appear as a leading number 30% of the time while the number 9 as a leading number should appear the least at less than 5% of the time. Proponents suggest that a significant deviation from these percentages in terms of the numbers occurring should be a trigger for further inquiry into the possibility of fraud. This approach is at times adopted in their fraud risk assessment. (Durtschi et al., 2004)

2.6.4 Use of Oversight Control Entities.

Another set of mechanisms utilized by firms in the combatting fraud can be classified as oversight processes. These reflect the existence of oversight bodies which serve as a check on the functions within an organisation. They include the presence of a board audit committee, existence of internal audit and the use of external audits and forensic accountants. The audit committee plays a key role in assisting the board to fulfill its oversight responsibilities in areas such as an entity's financial reporting, internal control systems, risk management systems and the internal and external audit functions. Interviews of audit committee member by Gendron et al. (2004), reveal that audit committees place a lot of prominence on the accuracy of financial statements and the work of internal and external auditors. While their mere existence may be sufficient to dissuade some from engaging in fraud, the functions performed by them ensure a further scrutiny of the entity's internal operations and increase the likelihood of detecting fraud if it occurs. Gendron et al. (2004), Gendron and Bédard (2006), Beasley et al. (2009), further find that the board audit committees in carrying out their mandate place some reliance on the work of both internal and external auditors and perceive the auditors as bearing the primary responsibility for fraud detection. However, Hoitash (2011) identifies social interactions which engender collaboration between the board and management strengthens the oversight process, a position corroborated by the work of Wilbanks (2014). It can be argued that regulatory frameworks within specific industries can exert a positive influence on the composition and tenure of an entity's board and oversight committees as well as its effectiveness. Flowing from the recent financial sector crisis in Ghana, the regulator, Bank of Ghana in 2018, has issued corporate governance directives which spell out the qualifications, experience and composition of financial institutions' boards, and even some specific sub-committees, including the audit committee of the boards.

The use of external audits is another important aspect of the fraud prevention program of many organisations. It is etched in literature that it is not the external auditor's primary responsibility to detect fraud (Costello, 1991, p. 267, Scott and Frye, 1997; Albrecht and Willingham, 1993; Chui 2013). However, owing to audit failures and financial scandals culminating in the institution of successful legal action against auditors have prompted for a review of this position and the promulgation of new legislation and auditing standards such as the Sarbanes –Oxley Act and Statement of Accounting Standards (SAS) 99 due (Treadway, 1987; Albrecht and Willingham, 1993; Scott and Frye, 1997). Prior to the Sarbanes-Oxley (SOX) Act in 2002, auditors were primarily viewed as reviewers of financial statements with the view to issue opinions as to whether they show a true and fair view of the state of affairs. The SOX Act though primarily targeted at publicly listed organisations, it has strengthened external auditors to report findings of procedures in the conduct of their work. That could possibly put the company at risk of possible fraud but seeks to preserve independence by preventing them from participating in designing new guidelines for their auditees. In assessing the expanded role of external auditors, Chong (2013) asserts that standards are guidelines to the profession, and urges auditors to exercise due diligence at all times and assess the reliability of management's internal controls. Though he further recommends that auditors constantly review their resource requirement, including the need for forensic specialists and information technology in significant audits to boost the likelihood of fraud detection, the study was mute on how effective this method will be or be perceived by accountants.

2.7 Summary of Literature Review

Various authors have attempted studied fraud from various dimensions. Fraud comes in various forms and could be precipitated by the circumstances of the working environment, the kinds of control in place, the moral aptitude of the perpetrator and many other factors. Diverse methods

have been deployed by organisations in the bid to address fraud. However, there remains a gap to be filled in the literature by the study of these methods in a development context in a way that incorporates the primary participants such as accountants and auditors. The rationale for this study is to ascertain the tangible measures organisations in Ghana implement in their effort at preventing and detecting fraud and the perception accountants and auditors have about such mechanisms. Such an investigation is pertinent taking into consideration the extent to which members of the accounting profession are impacted and by some margin, involved in the occurrence of fraud in corporate organisations.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Paradigm

The principal interest of this study is to examine how accountants perceive the effectiveness fraud detection and prevention mechanisms, identify which mechanisms are currently in use and to investigate whether the extent to which specific factors including respondent and organisational characteristics influence those perceptions. The quest to find that which may exist point to the use of a positivist orientation for this research. Hutchinson (1988)).

The approach thus adopted for the research is the quantitative approach. This approach was selected because it permits the researcher to statistically demonstrate the perceptions of accountants of fraud detection and prevention mechanisms and the factors influence same. The quantitative approach, though may miss contextual detail of the responses, serves as an objective means of conducting research as it seeks a precise measurement and analysis of the concepts and precludes judgmental biases of the researcher. (Gall et al., 2003, p. 14),

3.2 Population and Sample of the Study and Recruitment Procedures.

The sample frame for this study were accountants, as an all-encompassing term which includes persons engaged in the accountancy profession in Ghana, including accountants, internal auditors and external auditors. In order to increase the precision of the results from the above population within the timeframe for the execution of the research and while avoiding the demerits of random sampling, stratified sampling is used in the distribution of the questionnaire. A sample is drawn from candidates enrolled in the MSc. Accounting programme in the university of Ghana and

accounting practitioners in Ghanaian companies cited in the national capital. This sample is ideal for the study because subscribers to the programme possess prior accounting experience and mostly comprise chartered accountants. This unique characteristic of the students puts them in the position where they are most likely to encounter, interact with or use the mechanisms in their respective organisations to enable them form a perception about them. The diversity will also enhance the applicability of the results in more situations and make it more relevant to potential users.

3.3 Instrumentation and Data Collection

The instrument deployed for this study is survey questionnaires with close ended questions. Questions relevant to the attainment of the research objectives are designed in a manner to allow respondents select appropriate responses on a Likert scale ranging from 1 to 7. The length of the scale is to permit collection of nuanced responses which a dichotomous yes or no would not provide. This is in line with Matell and Jacoby (1971), who argue that shortening a scale results in discarding relevant information thus making them less reliable, but adds that the gain in reliability levels off after reaching 7 points. Similar arguments hold for the validity as well. Green & Rao, 1970; Lehmann & Hulbert, 1972; Lissitz & Green, 1975, Martin, 1973; Martin, 1978; Ramsay, 1973). In order to optimize the responses and prevent satisficing (Krosnick 1991) and maximize the usability of the survey responses, questions in the monkey survey were made mandatory, thus one could not skip unless the current question is answered. The questionnaire was modelled after that developed by Biestaker et al and modified by

3.4 Data Analysis and Management

The findings of no significant relationship between qualification, level of management and the perception provides a unified response indicating that individual characteristics of the accountant such as the level of management within an organisation which confirms the second null hypotheses. It is also a pointer that some other variable which was not included in the model used by the researcher could be a determinant of perceptions, thus offering an opportunity for further research. Further studies could also be conducted into the factors which influence the choice of fraud detection and prevention mechanisms used by organisations.

On a final note, this study is absolutely necessary in furtherance of fraud research especially in a Ghanaian setting in the area of identifying mechanisms which work.

CHAPTER FOUR

RESULTS ANALYSIS DISCUSSION AND FINDINGS

4.1 Introduction

This section about the results, analysis, discussion and findings in relation to this study. The information. This section is grouped into various section, that is; the demographic characteristics of the respondents, and the information obtained from the respondents with aim of providing answers to the research questions. In this study, 180 were distributed to the respondents and 99 out of the 180 was retrieved from the respondents. Therefore, the sample size used for this 99.

4.2 Demographic characteristics

The researcher obtained some basic information in relation to the demographic characteristics of those who responded and where they work. The demographic characteristics used for this study entails age, gender, marital status, educational qualification, years of experience, level of management, sector, number of employees in the organization.

Table 4.1: Demographic characteristics

	Frequency	Percentage
Gender		
Male	69	69.7
Female	30	30.3
Age		
20-30	24	24.2
31-35	37	37.4
36-40	19	19.2
40 and Above	19	19.2
Educational Qualification		
First degree	17	17.2
Professional	31	31.3
Post graduate	35	35.4
Other	16	16.2
Years of experience		
Less than 5 years	27	27.3
5-10 years	44	44.4
10-15 years	21	21.2
Above 15 years	7	7.1
Level of management		
Lower level	18	18.2
Middle level	62	62.6
Top level	19	19.2
Sector		
Public	46	46.5
Private non-financial	26	26.3
Private financial	19	19.2
Audit practice	8	8.1
Number of Employees		
Less than 50	17	17.2
51 to 199	16	16.2
200 to 499	8	8.1
Above 500	58	58.6
Multinational Status		
Multinational	24	24.2
Not multinational	76	75.8
TOTAL	99	100

Source: Field Data

From table 4.1, out of the 99 respondents, 69.7% were males while 30.3% were females. 24.2%, 37.4%, 19.2% and 19.2% of the respondents fell within the ages 20-30, 31-35, 36-40 as well as 40

and above respectively. 17.2% of the respondents have first degree as academic qualification while 31.3% had professional qualification such as ACCA, CIMA and CA. 35.4% had postgraduate degrees and 16.2% had other qualifications. 27.3% of the respondents have served in their organization for less than 5 years while 44.4% has served for 5-10 years. 21.2% has served for 10-15 years and 7.1% have served for more than 15 years in the organization they work. Also 18.2%, 62.6% and 19.2% of the respondents are at the lower, middle and top level in the organization in which they work respectively. 46.5% of the respondents works in public sector while 26.3% works in a private sector which is not financial and 19.2% in a private financial sector. 8.1% are in auditing practicing sector. 24.2% of the respondents works in a multi-national firm while 75.8% works in a non-multinational firm. 17.2% of the respondent's works in an organization that has less than 50 employees, 16.2% are in an organization that has 51 to 199 employees, 8.1% and 58.6% are working in an organization that has 200 to 499 workers as well as 500 and above number of workers respectively.

Table 4.2: Perception of accountants on the effectiveness of fraud prevention and detection mechanisms in use in Ghanaian entities.

		HI	MI	SI	NEI	SE	ME	HE	Mean	SD
Creating a culture of honesty										
Setting the tone at the top	Frequency	3	9	9	16	20	39	3	4.8	1.5
	Percent	3.0	9.1	9.1	16.2	20.2	39.4	3.0		
Establishing code of conduct	Frequency	5	8	10	15	16	42	3	4.5	1.4
	Percent	5.1	8.1	10.1	15.2	16.2	42.4	3.0		
Staff training on ethics	Frequency	11	9	10	16	23	28	2	4.8	1.5
	Percent	11.1	9.1	10.1	16.2	23.2	28.3	2.0		
consistent and visible executive sponsorship for ethics and compliance	Frequency	8	13	11	14	24	27	2	4.5	1.5
	Percent	8.1	13.1	11.1	14.1	24.2	27.3	2.0		
Taking consistent actions in responds alleged fraud	Frequency	3	9	13	16	25	31	2	4.8	1.3
	Percent	3.0	9.1	13.1	16.2	25.3	31.3	2.0		
Fraud training for employees and management	Frequency	13	10	9	17	23	25	2	4.6	1.6
	Percent	13.1	10.1	9.1	17.2	23.2	25.3	2.0		
conducting background investigations on prospective employees	Frequency	10	9	13	17	19	29	2	4.6	1.4
	Percent	10.1	9.1	13.1	17.2	19.2	29.3	2.0		
Creating positive workplace environment	Frequency	4	9	15	14	20	35	2	4.9	1.2
	Percent	4.0	9.1	15.2	14.1	20.2	35.4	2.0		
Process control										
Existence of internal control	Frequency	3	5	9	15	20	45	2	5	1.4
	Percent	3.0	5.1	9.1	15.2	20.2	45.5	2.0		
Existence of employee	Frequency	7	6	12	15	20	37	2	4.6	1.6
	Percent	7.1	6.1	12.1	15.2	20.2	37.4	2.0		

monitoring mechanisms										
Certainty of punishment preparations	Frequency	4	10	12	11	20	40	2	4.6	1.6
	Percent	4.0	10.1	12.1	11.1	20.2	40.4	2.0		
Internal control review and improvement	Frequency	6	9	9	20	19	34	2	4.8	1.4
	Percent	6.1	9.1	9.1	20.2	19.2	34.3	2.0		
Cash reviews	Frequency	4	3	13	10	28	39	2	4.7	1.5
	Percent	4.0	3.0	13.1	10.1	28.3	39.4	2.0		
Inventory observations	Frequency	4	3	13	10	28	39	2	4.9	1.4
	Percent	4.0	3.0	13.1	10.1	28.3	39.4	2.0		
Bank reconciliation	Frequency	4	3	4	11	26	49	2	4.4	1.2
	Percent	4.0	3.0	4.0	11.1	26.3	49.5	2.0		
Use financial ratios	Frequency	6	11	12	14	23	28	5	4.2	1.1
	Percent	6.1	11.1	12.1	14.1	23.2	28.3	5.1		
Application of Technology										
Data mining	Frequency	12	10	11	20	19	24	3	4.3	1.6
	Percent	12.1	10.1	11.1	20.2	19.2	24.2	3.0		
Password protection	Frequency	9	8	5	10	23	41	3	4.9	1.6
	Percent	9.1	8.1	5.1	10.1	23.2	41.4	3.0		
Installation of firewalls	Frequency	9	10	7	11	28	31	3	4.7	1.7
	Percent	9.1	10.1	7.1	11.1	28.3	31.3	3.0		
Filtering Software	Frequency	5	10	16	15	21	29	3	4.5	1.6
	Percent	5.1	10.1	16.2	15.2	21.2	29.3	3.0		
Digital analysis	Frequency	9	8	14	18	23	24	3	4.4	1.6
	Percent	9.1	8.1	14.1	18.2	23.2	24.2	3.0		
Appropriate Oversight process										
Presence of board audit committee	Frequency	11	7	4	10	23	41	3	5.1	1.4
	Percent	11.1	7.1	4.0	10.1	23.2	41.4	3.0		
Int. Audit	Frequency	8	6	2	9	19	52	3	5.1	1.5
	Percent	8.1	6.1	2.0	9.1	19.2	52.5	3.0		
Ext. Audit	Frequency	4	2	4	6	22	58	3	5.2	1.3
	Percent	4.0	2.0	4.0	6.1	22.2	58.6	3.0		

Source: Field Data

In finding out the perception of accountants on the effectiveness of fraud prevention and detection mechanisms in use in Ghanaian entities, the mean score ranged from 4.2 to 5.2. The respondents

indicated that from their view, the least mechanism used in detecting fraud, is the use of financial ratios since it had a mean of approximately (4.2) Also, they indicated that external audit is used in detecting fraud most at times. External audit had a mean of 5.2. In the event categorizing the views of the respondents in terms of culture, process control, appropriate oversight process and technology, the study found out that, the respondents perceive appropriate oversight process as a means which is normally used in detecting fraud mechanisms. It had a mean of 5.2. However, the means of the appropriate mechanisms were very close. This also means that they perceive the various mechanisms as effective means of preventing and detecting fraud. The table below represent the views of the respondents in terms of the major groupings.

Table 4.3: Perception

	Culture of high ethics	Process control	Appropriate oversight process	Technology
N	99	99	99	99
Mean	4.7525	4.6806	5.1111	4.5798
Std. Deviation	1.21100	1.12319	1.36526	1.44264

Table 4.4: Fraud prevention and detection mechanisms deployed or used by firms in Ghana

		HI	MI	SI	NEI	SE	ME	HE	Mean	SD
Creating a culture of honesty										
Setting the tone at the top	Frequency	5	5	7	19	17	45	1	4.7	1.51
	Percent	5.1	5.1	7.1	19.2	17.2	45.5	1		
Establishing code of conduct	Frequency	5	4	5	12	22	50	1	4.7	1.6
	Percent	5.1i	4	5.1	12.1	22.2	50.5	1		
Staff training on ethics	Frequency	4	7	7	14	26	39	2	4.2	1.7
	Percent	4.0	7.1	7.1	14.1	26.3	39.4	2		
consistent and visible executive sponsorship for ethics and compliance	Frequency	5	9	8	19	28	29	1	4.2	1.7
	Percent	5.1	9.1	8.1	19.2	28.3	29.3	1		
Taking consistent actions in responds alleged fraud	Frequency	2	6	7	17	27	39	1	4.5	1.5
	Percent	2	6.1	7.1	17.2	27.3	39.4	1		
Fraud training for employees and management	Frequency	6	6	12	14	22	38	1	4.1	1.8
	Percent	6.1	6.1	12.1	14.1	22.2	38.4	1		
conducting background investigations on prospective employees	Frequency	3	5	15	16	26	33	1	4.2	1.7
	Percent	3	5.1	15.2	16.2	26.3	33.3	1		
Creating positive workplace environment	Frequency	1	4	8	15	31	39	1	4.5	1.6
	Percent	1	4	8.1	15.2	31.3	39.4	1		

Process control										
Existence of internal control	Frequency	5	3	5	11	26	48	1	4.9	1.4
	Percent	5.1	3	5.1	11.1	26.3	48.5	1		
Existence of employee monitoring mechanisms	Frequency	6	5	10	12	31	34	1	4.6	1.6
	Percent	6.1	5.1	10.1	12.1	31.3	34.3	1		
Certainty of punishment preparations	Frequency	3	7	8	15	27	38	1	4.6	1.6
	Percent	3	7.1	8.1	15.2	27.3	38.4	1		
Internal control review and improvement	Frequency	5	5	4	18	28	38	1	4.5	1.6
	Percent	5.1	5.1	4.0	18.2	28.3	38.4	1		
Cash reviews	Frequency	7	1	13	11	30	36	1	4.8	1.4
	Percent	7.1	1	13.1	11.1	13.3	36.4	1		
Inventory observations	Frequency	4	7	3	12	28	44	1	4.8	1.5
	Percent	4	7.1	3	12.1	28.3	44.4	1		
Bank reconciliation	Frequency	4	2		61	9	21	2	5.0	1.3
	Percent	4	2		61.6	9.1	21.2	2		
Use financial ratios	Frequency	4	3	4	62	11	13	2	4.2	1.7
	Percent	4	3	4	62.6	11.1	13.1	2		
Application Technology										
Data mining	Frequency	9	4	12	21	29	20	4	4.0	1.8
	Percent	9.1	4	12.1	21.2	29.3	20.2	4		
Password protection	Frequency	8	3	4	12	23	47	2	4.7	1.7
	Percent	8.1	3	4	12.1	23.2	47.5	2		
Installation of firewalls	Frequency	9	4	10	10	22	42	2	4.5	1.7
	Percent	9.1	4	10.1	10.1	22.2	42.4	2.0		

Filtering Software	Frequency	8	9	6	12	29	33	2	4.4	1.6
	Percent	8.1	9.1	6.1	12.1	29.3	33.3	2		
Digital analysis	Frequency	8	11	5	12	33	28	2	4.2	1.7
	Percent	8.1	11.1	5.1	12.1	33.3	28.3	2		
Appropriate Oversight process										
Presence of board audit committee	Frequency	4	5	6	10	17	55	2	4.6	1.8
	Percent	4	5.1	6.1	10.1	17.2	55.6	2		
Int. Audit	Frequency	6	4	7	5	18	57	2	4.9	1.6
	Percent	6.1	4	7.1	5.1	18.2	57.6	2		
Ext. Audit	Frequency	3	4	5	9	16	60	2	5.2	1.3
	Percent	3	4	5.1	9.1	16.2	60.6	2		

Source: Field Data

In finding out the various fraud prevention and detection mechanisms deployed by firms in Ghana, the mean score of the respondents ranged from 4 to 5.2. The respondents reiterated that the least mechanism used by firms in detecting fraud, is the use of data mining since it had a mean of 4. Also, they indicated that external audit a method which is widely used in detecting fraud most at times by firms in Ghana. External audit had a mean of 5.2. External audit which is most at times used in detecting fraud by firms in Ghana conformed to the perception of the respondents on the appropriate mechanisms that they perceive as effective means of detecting fraud. However, it contradicted the least appropriate mechanism.

Also, these findings conform to the findings of Bierstaker, et al. (2006), Alleyne and Howard's (2005), Perry and Bryan (1997). Their findings postulates that, auditing and technological applications are used by firms in detecting fraud.

The table below also represent the mean score of the respondents in terms of the four major groupings used in this study as the ways used by firms in Ghana in detecting.

Table 4.5: Method

	N	Mean	Std. Deviation
Culture	99	4.4078	1.45101
Process	99	4.7071	1.29217
Technology	99	4.3636	1.55901
Appropriate Oversight process	99	4.9562	1.38967

4.3 The relationship between perceptions of fraud prevention and length of employment.**Table 4.6: Correlations**

		culture	process	Application	Technology	Years Experience
culture	Pearson Correlation	1	.741**	.471**	.419**	-.088
	Sig. (2-tailed)		.000	.000	.000	.387
	N	99	99	99	99	99
process	Pearson Correlation	.741**	1	.507**	.457**	-.049
	Sig. (2-tailed)	.000		.000	.000	.633
	N	99	99	99	99	99
Application	Pearson Correlation	.471**	.507**	1	.699**	.044
	Sig. (2-tailed)	.000	.000		.000	.669
	N	99	99	99	99	99
Technology	Pearson Correlation	.419**	.457**	.699**	1	.013
	Sig. (2-tailed)	.000	.000	.000		.902
	N	99	99	99	99	99
Years Experience	Pearson Correlation	-.088	-.049	.044	.013	1
	Sig. (2-tailed)	.387	.633	.669	.902	
	N	99	99	99	99	99

From table there is no significant correlation between the mechanisms used in the prevention of fraud and the number of employees in organization.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

5.1 Introduction

This final chapter of my study presents the summary of my findings, conclusions and recommendations and possibly a discussion on area that further studies could be conducted.

5.2 Summary of findings

The summary of the findings is grouped in a manner that answers the research questions. First and foremost, in relation to the perception of accountants on the effectiveness of fraud prevention and detection mechanisms in use in Ghanaian entities, the study found out that, the respondents indicated that from their view, the least mechanism used in detecting fraud, is the use of financial ratios since it had a mean of approximately (4.2) Also, they indicated that external audit is used in detecting fraud most at times. External audit had a mean of 5.2. In the event categorizing the views of the respondents in terms of culture, process control, appropriate oversight process and technology, the study found out that, the respondents perceive appropriate oversight process as a means which is normally used in detecting fraud mechanisms. It had a mean of 5.2. However, the means of the appropriate mechanisms were very close. This also means that they perceive the various mechanisms as effective means of prevention and detecting fraud.

The study also found out that, the least mechanism used by firms in detecting fraud, is the use of data mining since it had a mean of 4. Also, they indicated that external audit a method which is widely used in detecting fraud most at times by firms in Ghana. External audit had a mean of 5.2. External audit which is most at times used in detecting fraud by firms in Ghana conformed to the

perception of the respondents on the appropriate mechanisms that they perceive as effective means of detecting fraud. However, it contradicted the least appropriate mechanism. The study also found out that there is no significant correlation between the mechanisms used in the prevention of fraud and the number of employees in organization.

5.3 Conclusion

The study set out to examine which methods and mechanisms are utilised in fraud prevention and detection in organisations in Ghana and the extent to which accountants perceive various mechanisms as effective in preventing and detecting fraud. The results suggest that accountants in Ghana perceive the external audits as the most effective method in preventing and detecting fraud. It is also the most used method in Ghanaian organisations. The results, which were consistent with that of previous studies in other jurisdictions reinforce the view that many organisations, including those in Ghana are yet to fully embrace modern technological trends in addressing the menace of fraud as they continue to hold in high esteem the traditional mechanisms.

5.4 Recommendation

The statements of auditing standards indicate that it is not the primary duty of the auditor to detect fraud, but to plan and execute the audit in a way that fraud might be detected if it is present. This result of this study contributes to the existing literature on fraud, and also presents an opportunity for further researchers to delve into the reasons for using specific methods of prevention as opposed to others and which mechanism are effective by virtue of the number of fraud incidents they are able to detect. This can also help organisations know whether their results are likely to achieve in the deployment of financial resources in addressing fraud.

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APPENDICES

APPENDIX A: RESEARCH QUESTIONNAIRE

EFFECTIVENESS OF FRAUD PREVENTION AND DETECTION MECHANISMS: ACCOUNTANTS' PERCEPTIONS

My name is Solomon Eli Gebu, a final year MSc. Accounting and Finance Student at the University of Ghana Business School. This questionnaire is aimed at data collection on the Accounting Professionals' Perception of the Effectiveness of Fraud Detection and Prevention Mechanisms and the extent to which they are used in Ghana. I will be grateful to have your frank responses as much as possible. All information supplied in this questionnaire will be kept in strict confidence and will be used specifically for academic purposes.

Please tick, circle, select and/or write as applicable depending on the option provided.

Section A: Respondent Profile

1. What is your gender? Male ☐ Female ☐
2. Please indicate your Age 20-30 Years ☐ 31-35 Years ☐ 36-40 Years ☐ Above 40 Years ☐
3. Highest attained qualification. First Degree ☐ Professional ☐ Post Graduate ☐ Other ☐
4. Number of years of experience in Accounting or Auditing.
Less Than 5years ☐ Between 5 and 10 ☐ Between 10 and 15 ☐ Above 15 years ☐
5. Please specify the level of management you fall within in your organization.
Lower Level ☐ Middle Level ☐ Top Management ☐

Section B: Industry & Firm Information

Kindly indicate as appropriate the information about your organization

1. Which sector does your firm operate in?
Public Sector ☐ Private Non-Financial ☐ Private Financial ☐ Audit Practice ☐
2. How Many Employees does your firm have in Ghana?
Less Than 50 ☐ Between 51 and 199 ☐ Between 200 and 499 ☐ Above 500 ☐
3. Is your firm multinational? Yes ☐ No ☐

Section D: Fraud Awareness

This section is to collect information on the level of awareness about fraud in the respondent's organization.

Please indicate "Yes" or "No" as applicable

	Yes	No
Your organization has a fraud policy		
Your company's fraud policy is updated regularly		
Everyone in your organization has clarity on the steps to take when they suspect fraud		
You have attended fraud training workshop in the past one year.		
Management shows its detestation for fraud by acting in an exemplary manner.		

Section E: Fraud Detection Mechanisms & Perceptions

Please indicate the extent to which you agree or disagree with the effectiveness of the following mechanisms as a means of preventing and detecting fraud. The likert scale is from 1 to 7, with **1 indicating the strongest level of disagreement** and **7 indicating the strongest agreement**.

	1	2	3	4	5	6	7
Creating a culture of honesty and high ethics							
Setting the tone at the top							
Establishing corporate code of conduct							
Staff Training on Ethics							
Consistent and visible executive sponsorship for ethics and compliance							
Taking consistent actions in response alleged fraud							
Fraud training for employees and management							
Conducting background investigations on prospective employees							
Creating a positive workplace environment							
Process Control							
Existence of Internal Controls							
Existence of Employee monitoring mechanisms							
Certainty of punishment for perpetrators							

Internal control review and improvement							
Cash reviews							
Inventory observation							
Bank reconciliation							
Use Financial ratios							

Application Technology in Fraud Detection							
Data Mining							
Password Protection							
Installation of Firewalls							
Filtering software							
Digital analysis							
Appropriated Oversight Process							
Presence of Audit Committee							
Internal Audit							
External Audit							

Section E: Use of Fraud Prevention and Detection Mechanism in Ghanaian Firms

This section is to collect data on the extent of use of the following mechanisms as a means of preventing and detecting fraud in your organization. Please indicate the level of use by indicating on the Likert scale from 1 to 7, with **1 indicating the lowest level** of usage and 7 indicating the **highest level of use**.

	1	2	3	4	5	6	7
Creating a culture of honesty and high ethics							
Setting the tone at the top							
Establishing corporate code of conduct							
Staff Training on Ethics							
Consistent and visible executive sponsorship for ethics and compliance							
Taking consistent actions in response alleged fraud							
Fraud training for employees and management							
Conducting background investigations on prospective employees							
Creating a positive workplace environment							

Process Control							
Existence of Internal Controls							
Existence of Employee monitoring mechanisms							
Certainty of punishment for perpetrators							
Internal control review and improvement							
Cash reviews							
Inventory observation							
Bank reconciliation							
Use Financial ratios							

Application Technology in Fraud Detection							
Data Mining							
Password Protection							
Installation of Firewalls							
Filtering software							
Digital analysis							
Appropriated Oversight Process							
Presence of Board Audit Committee							
Internal Audit							
External Audit							