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# Factors influencing occupational fraud risk in supermarket chains in Kenya

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**Factors Influencing Occupational Fraud Risk In Supermarket Chains In Kenya**

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**Submitted in Partial Fulfillment for the Degree of Master of Commerce at Strathmore  
University**

**School of Management and Commerce**

**Strathmore University**

**Nairobi, Kenya**

**June 2018**

## DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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Diana Kemunto Matagarro

June 4<sup>th</sup> 2018

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## ABSTRACT

Throughout history, fraud has existed and has taken many dimensions. Organization fraud has grown with the advent of the retail industry, and has been facilitated through the technological improvements and the large use of the Internet. The purpose of this study was to establish the factors influencing occupational fraud risk in retail chains in Kenya. The study was guided by three specific objectives; to assess the effect of corporate governance on occupational fraud risk in supermarket chains in Kenya, to determine the influence of staff attitude on occupational fraud risk in supermarket chains in Kenya and to assess the influence of employee lifestyle on occupational fraud risk in supermarket chains in Kenya. This study used a descriptive research design targeting all employees in supermarkets in Kenya. A sample size of 384 respondents was selected through random sampling, which included the operations managers, supervisors, cashiers and general employees. The study utilized primary data. Primary data was collected through the use of structured questionnaires which comprised of both open-ended and closed-ended questions. A factor analysis was done to test the validity of the questionnaires. The questionnaires were self-administered by the use of research assistants. Data was analyzed using the statistical package for social sciences software (SPSS) version 20.0. The findings indicated that the level of occupational fraud risk has reduced to a little extent and this could be attributed to the fact that supermarkets have put in place internal control systems. However, the vice has not been curbed fully due to weak control systems, job dissatisfaction among employees, easy access to the organization's resources and demanding employee lifestyle habits. The sector is highly vulnerable to the risk of bribery and corruption due to high levels of third party touch points in the Procurement and Supply Chain. The study therefore concludes that laxity in management can create high chances of occupational fraud risk. The retail chain sector can reap reasonable benefits in reducing occupational fraud by continuously reviewing the management controls through ensuring a feasible balance between resource allocation and occupational fraud exposure. This can be done by putting in place tight fraud handling policies, reporting all employee related frauds to the relevant authorities, ensuring staff rotation and that all staff go for annual leaves. Organizations should also conduct lifestyle checks on their employees to detect any inconsistency between what they earn and their lifestyles.

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## **ABBREVIATIONS AND ACRONYMS**

<b>ACFE</b>	Association of Certified Fraud Examiners
<b>CIMA</b>	Chartered Institute of Management
<b>FFR</b>	Fraud Financial Reporting
<b>FSF</b>	Financial Statement Fraud
<b>PWC</b>	PricewaterhouseCoopers
<b>SPSS</b>	Statistical Package for Social Sciences

## DEFINITION OF TERMS

**Fraud:** An act concerning deceit, to advantage an unfair advantage over another as a way to secure something of cost or deprive someone else's right (Duffield & Grabosky, 2001).

**Occupational Fraud:** The use of one's career for private enrichment through the planned misuse or misapplication of the employing company's sources or assets (ACFE, 2010).

**Governance:** pertains to the inner method via which corporations are operated and managed. (Dehaene, De Vuyst, & Ooghe, 2001).

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## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the Study**

Throughout history, fraud has existed and has taken many dimensions. Organization fraud has grown with the advent of the retail industry, and has been facilitated through the technological improvements and the large use of the Internet. According to the fraud triangle (Cressey, 1973), for fraud to occur the three factors; pressure, rationalization and opportunity should be present. Firms' employees have knowledge of the systems as well as classified and confidential information, which together with technological advancement can give them the opportunity to commit fraud. All they need is some pressure and rationalization and that way they become part of fraud cartels that are fleecing millions of shillings from the retail sector.

This study has been motivated by the fact that retail sector growth has been on the increase over the past years. However, this growth comes along with challenges and risks. Some of the challenges that the retail chains are experiencing are poor performances due to occupational fraud. Uchumi supermarket has been on the lime light since the year 2000 when it started experiencing operational and financial difficulties, leading to considerable diminution of its resources and inability to meet its financial obligations (Memba and Abuga, 2013). The government salvaged the situation by changing the top management but 15 years down the line the supermarket is at a financial crisis all over again. Recently the famous Nakumatt supermarket has closed down several outlets due to financial crises as well. This study was therefore carried out to find out the factors influencing occupational fraud risk in supermarket chains in Kenya.

The level of occupational fraud has been on an upward trend in the global arena. According to the Kroll (2016) Global Fraud and Risk report, 82% of respondents reported fraud in 2016 as compared to 75% in 2015. The report indicates that China continues to face a tremendous challenge of fraud with a prevalence level of 86%, 13% higher than 2015 and 4% above the global average of 82%. Unique to any part of the world, China's ranking is contributed by its leading incidence in regulatory or compliance breach of 33%, the highest globally. The major drivers of fraud in China are high staff turnover named by 55% of the respondents (Kroll, 2016).

Mexico has not been spared by the fraud vice. Kroll (2016) indicates that fraud prevalence levels are at 82% which is 25 higher than 2015 and equal to the global average of 82%. Procurement fraud is pointed out as the most prevalent type of fraud in Mexico with an incidence of 52%. Similarly, Kroll's survey reports that Colombia is one of the regions hit by fraud, conflicts of interest in management teams being the most common type of fraud. According to Kroll (2016), 95% of respondents, 12% more than 2015, reported that they had been affected by fraud. Intellectual property theft, piracy or counterfeiting remains a challenge in the United States, 88% of respondents reporting fraud incidents (Kroll, 2016). On the other hand, Canada, one of the world's largest economies dominated by many successful multinationals, has also experienced increased fraud instances. Kroll (2016) indicates that Canada's fraud prevalence is 88% and that there is a rising high of 23% from 2015 in this region. According to these Kroll statistics, theft of physical assets is the most prevalent Canada 5% higher than the global average.

In the United States of America (USA), an investigation by ACFE uncovered that the cost related with 2608 announced misrepresentation cases over a ten-year time frame amounted to fifteen billion US dollars (Owusu-Ansah et al., 2002). Furthermore, ACFE (2008) revealed that USA organizations misplaced six percent (6%) of their incomes (adding up to roughly US\$660 billion) and 7 percent of their earning (adding up to around US\$994 billion) to misrepresentation in the years 2004 and 2008 respectively. Organizations lose a lot of resources through pilferage (Walsh, 2000). The increasing cases of fraud have led to the collapse of big companies which has resulted in unemployment and investors losing money. Such adversities have forced many firms to come up with controls that seek to mitigate fraud.

The exposure level in Middle East is on the rise with the average exposure rising from 70% in 2010 to 77% in 2011. Africa is struggling with very high levels of fraud. It has the highest overall fraud incidence of 85%. Out of the 11 frauds tracked by Kroll survey, Africa has the highest incidence in 5 of those risks, becoming the most unattractive region to do business in the world (Kroll, 2011). Kroll reports that the findings of the global fraud survey are a true reflection of how real occupational fraud has continued to threaten the expansion of businesses globally. Available literature suggests that occupational fraud is not a random occurrence (Duffield & Glabosky, 2001; Bagnoli & Watts, 2010).

### **1.1.1 Concept of Fraud**

The idea of fraud has been in existence from the time when commercialization came into being (Okafor, 2008). The Association of Certified Fraud Examiners (ACFE 2002– 2008) conducted a research in the US across different industries and found out that: Fraud is a global issue that affects every company. Firms lose 5–7 per cent of revenues to fraud (Samociuk, Iyeer & Doody, 2010). Organizations have frameworks set up to help guarantee that transactions are recorded precisely and that legitimate methods are taken after. Additionally, companies have strategies that oblige workers to act in a moral way. These frameworks, methods, and strategies frequently work to identify errors in work procedures. A deceitful representative purposely tries to defeat these frameworks and strategies while in the meantime endeavoring to disguise his or her activities. As companies endeavor to extend their businesses, it creates a situation where managers are faced with the task of overseeing numerous employees at once, making it difficult to take after every one of their workers' activities to the letter. This makes it simple for fraud perpetrators since their actions may not be easily traced. The fraudsters having access to systems may learn how to override them and gain fraudulently (Coenen, 2008).

### **1.1.2 Occupational Fraud Risk Contributing Factors**

According to Goldman (2009), occupational fraud accounts for 50-80% of frauds reported in companies. Employees having access to the organizations resources makes it simpler for them to manipulate the systems. Firms have put in place strategies to curb fraud but the measures put in place are not adequate. (Samociuk et al., 2010). The Fraud triangle concept recommends that in situations wherein opportunity is low, fraud occurrence is low-. Research suggests that one of the ways to reduce opportunities to commit fraud is through implementing powerful management controls (Alleyne and Howard, 2005).

Alleyne and Howard (2005) looked to determine the perspectives of auditors about the nature and degree of fraud. The examination discovered that the reasons for committing fraud were; moral standings, demanding lifestyles; people miserable with their occupation; people with addictions; people with increased obligations; people seeing others commit fraud; and people feeling that the fraud they commit will not be discovered.

### **1.1.3 Regional Perspective of Occupational Fraud Risk**

The retail sector is arguably one of the greatest in Kenya, having varied between position one and three of developing sectors of the economy in the previous three years. In 2013, for example, the sector recorded a 7.5% growth as indicated by the Kenya Economic Survey, despite the fact that it had dropped from nine in the earlier year. Even though the retail sector is performing well, it has been faced with loss through fraud perpetrated by culprits who have aced the art of overriding systems. Retailers in Kenya are losing up to Sh3 billion consistently through different means, theft being the most prevalent (Retail Trade Association of Kenya {Retrak}, 2017).The sector is said to battle with runaways, inside facilitated theft by both senior and junior staff in what could be organized crime.

A study done by surveyor Ipsos Synovate in 2012 indicated that managers contributed 31.1% of theft and only one of 30 such managers is ever caught. The normal time frame it takes to recognize such cases is two years, as per the Synovate survey.

### **1.2 Statement of the Problem**

Companies set aside resources for development and implementation of the policies and control systems but still face the challenge of dealing with fraud perpetrators that override these systems. Clever individuals, ordinarily alluded to as fraudsters, still figure out how to supersede frameworks or trick legit individuals into manipulating assets and resources for personal gains (Yego, 2016). Retailers are losing billions of money to fraud perpetrators, which leads them to closing shop.

Over the years, the retail industry in Kenya has experienced tremendous growth contributing as much as 10% to the country's GDP (Kimani *et al.*, 2012). Supermarkets have been the drivers of the retail industry in Kenya, encouraged by changing lifestyles, increased urbanization and growth in the middle class. Not only have these outlets invested in young and energetic workforce but have also distributed their services across the country, setting up modern malls in both urban and semi-urban centers. However, nothing comes without a challenge, and as the report named Kenya Real Estate Retail Sector Analysis 2016 shows that the key test confronting the sector is pilferage. The overview was led among the Chief Executive Officers of major chains to get their opinions. According to the findings, authorities

seem to be under estimating pilferage as a challenge to the sector and guilty parties are often set free (Cyttonn, 2016).

The Real Estate Retail Sector Analysis 2016 report can be replicated by the performance of some large supermarket chains in Kenya such as Uchumi, which has been in trouble since the year 2000 when it started experiencing financial crises leading it to be put under receivership. Not even with the management change has the supermarket changed its fate as it is in the verge of collapse again. Recently directors of a supermarket chain (Tusky's) in Kenya were in tangles due to fraud and corruption allegations, which led to closure of some branches. In addition, the pressure to report consistent sales results amidst intense competition, and the need to comply with regulatory requirements, can push companies towards adopting unethical business practices to survive in the market. This study therefore sought to determine the factors that influence occupational fraud risk in supermarket chains in Kenya and contribute to other studies by testing if the selected variables; corporate governance, staff attitude and employee lifestyle influence occupational fraud risk.

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

The general objective of this study was to assess the factors influencing occupational fraud risk in retail chains in Kenya.

#### **1.3.2 Specific Objectives**

- i. To assess the influence of corporate governance on occupational fraud risk in supermarket chains in Kenya.
- ii. To assess the influence of staff attitude on occupational fraud risk in supermarket chains in Kenya.
- iii. To assess the influence of employee lifestyle on occupational fraud risk on occupational fraud risk in supermarket chains in Kenya.

### **1.4 Research Questions**

- i. To what extent does corporate governance influence occupational fraud risk in supermarket chains in Kenya?

- ii. What is the influence of staff attitude on occupational fraud risk in supermarket chains in Kenya?
- iii. What is the influence of employee lifestyle on occupational fraud risk in supermarket chains in Kenya?

## **1.5 Significance of the Study**

### **1.5.1 To Policy Makers and Government**

First, the government would need this information to set up regulations that protect investors. The recent crises in supermarket chains have just made it basic for more noteworthy control measures to be set up and this study will help provide insight. The management of the supermarkets can also use this research to come up with policies that mitigate against fraud.

### **1.5.2 To Retail Chains**

In addition, this study can help the retail sector in fraud risk management and in the development of policies to reduce operational risk within the retail sector. The supermarkets will be able to close the loop holes that the fraudsters are using to commit fraud despite the preventive measures in place to detect and deter fraud thus reducing fraudulent activities. This research will also shed light on the possible types of occupational fraud in the retail sector and will help investors in understanding and therefore enlighten them on how to avoid falling victim. This will ensure that they do not face huge losses.

### **1.5.3 Academicians and other Researchers**

Finally, this study added value to the prevailing body of information as it developed insights of fraud reduction in not only the supermarkets but also the wider market players.

## **1.6 Scope of the Study**

The population for this study comprised of all 22 supermarkets that fall in the category of Medium and Large Taxpayers in Kenya. Further, this study focused on the factors influencing occupational fraud risk in supermarket chains in Kenya. In particular, the study determined how corporate governance, staff attitude and employee lifestyle influenced occupational fraud risk in the retail sector in Kenya. Finally, this investigation was carried out in 2017.

## **1.7 Limitations of the Study**

One of the challenges faced was the response rate. To mitigate this, the analyst set aside time to meet with every potential respondent and informed them of the extent of the study and its essentialness to the organization.

Another challenge was the resources, which include time and finances. A lot of time and finances was invested in carrying out this research. To mitigate this, the researcher created time to meet the supervisor and work within the stipulated tight deadlines.

The availability of secondary data on the supermarkets was a challenge since the supermarkets are not listed at the Nairobi Securities Exchange and thus it was hard to collect the financial information and measures. However to address this limitation, the researcher used primary data specifically a structured questionnaire to solicit information from the employees.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presents literature on occupational fraud risk and develops a conceptual framework. This study on the factors influencing occupational fraud risk in supermarkets in Kenya was guided by two key theories; fraud triangle theory and fraud diamond theory. Finally, the research and knowledge gaps are presented in the last section of the chapter.

### **2.2 Theoretical Review**

The theories that are considered to be of fundamental influence to the study were reviewed in this section. The fraud triangle theory and fraud diamond theory were used to guide the study.

#### **2.2.1 Fraud Triangle Theory**

The fraud triangle theory describes three elements that explain the possible causes of fraud. Cressey (1971). In studying directors who stole from their employers, Cressey (1971) found that embezzlement incorporates three components; an unsharable issue, ability to access accounting records and assets, and the ability to justify their actions. Cressey depicted a triangular connection between pressure, opportunity and rationalization (Wells, 2001; Wilson, 2004). Wilson (2004) describes opportunity as the ability to manipulate systems, pressure, the inspiration to commit fraud, and rationalization the ability to justify the fraudulent act.

Despite the fact that this model enables one to understand fraud, other factors if present can cause people to commit fraud. Employees who are progressively effective regularly gain unrestrictive control over their employer's assets. Power and corruption may often drive such employees into committing fraud (Ludwig and Longenecker, 1993). A few studies done after major companies failed due to fraud have demonstrated higher than expected inclusion of senior administration in concealing fraudulent activities (Committee of Sponsoring Organizations of the Treadway Commission, 1987). The hypothesis is vital in that it offers a rational and sensible clarification on the reasons of fraud and the way managers are linked to occupational fraud.

#### **2.2.2 The Fraud Diamond Theory**

In regard to this hypothesis, Wolfe and Hermanson (2004) estimated that a component – capacity of the guilty party – needs to be added to the misrepresentation triangle to make what

they term as the "Fraud Diamond". The theory explains that the wrongdoer requires the capacity of carrying out fraud, where capacity may include the specialized information and certainty to execute and additionally escape with the wrongdoing (Wolfe and Hermanson, 2004). The incorporation of intellectual capacities and predispositions has reduced the limitations of the fraud triangle; for example, a group of researchers utilize subjective heuristics to explain why at times directors might vindicate fraudulent acts, while others didn't, based on character psychological dispositions and situations (Anadarajan and Kleinman, 2011).

This theory is seldom used in literature. The introduction of the fourth element capacity also explains how fraud perpetrators can control others (Omar and Mohamad, 2010). A fraudster with the capacity to do wrong can include others in their schemes via subterfuge or control of emotions. In most cases fraud perpetrators only seek to utilize innocent people's aptitudes to profit themselves. This form of manipulation tends to include others as co-schemers who are not completely discerning of the idea of the extortion, but rather want to help a colleague genuinely which makes it difficult for one to identify the real fraud perpetrator (Omar and Mohamad Din, 2010). This theory shows the connections of the factors causing fraud and how the fraud perpetrators influence other people into fraudulent activities. This is because one person in the organization cannot execute fraudulent activities but has a group of people joined to make it a success.

## **2.3 Empirical Review of Existing Literature**

### **2.3.1 Influence of Corporate Governance on Occupational Fraud Risk (Opportunity)**

The Fraud triangle concept recommends that in situations wherein opportunity is low, fraud occurrence is low. Research suggests that one of the ways to reduce opportunities to commit fraud is through implementing powerful management controls (Alleyne and Howard, 2005). Mustafa and Youssef (2010) likewise found that the thorough authorization of administration controls.

It has likewise been discovered that fraud can occur in organizations where management is not strict on adherence to fraud policies (Holmes and Holmes, 2002) and also where inadequate fraud deterrence strategies have been employed (Turner and Stephenson, 1993). The ACFE (2008-2010) goes the closest to giving a breakdown of the fundamental types of

administration controls to battle fraud. On the other hand, it may not be specific administration controls, which are of significance but instead the implementation of different approaches, and strategies. A common reason behind the failure of administration controls is the dynamism of the business environment which includes technological advancements, and developments in the environment. This is stated in a number of the Wells (2001) cases which indicate that fraud is likely to occur when controls no longer adjusted to the ever changing business environment.

Barra (2010) used a logical way to find out whether the imposition of penalties helps in preventing fraud. Barra studied the effects preventive controls have on both managerial and non-managerial staff, and found that separating duties and putting in place controls does reduce fraud by increasing its cost. This suggests that for fraud to occur the benefit of committing it should outweigh the cost hence the need to have adequate preventive controls that make it costly for employees to commit fraud. Tamer (2012) carried out an empirical analysis on the determinants of fraud in Turkey. Using the fraud Triangle theory, he evaluated the corporate governance principles in prominent companies in various sectors and the extent to which they created opportunities, incentives and rationalization and therefore increasing the vulnerability of companies to fraud. The data was collected from 146 executive managers, using self-administered questionnaires. Tamer (2012) used the number of fraud cases faced by the executives as the dependent variable. The amount of fraud cases, the existence of fraud policies, the existence of written fraud procedures, the level of company revenue, the number of workers in a company and publicly traded companies were used to predict the probability of fraud occurring in a company. The logit model results of the survey indicate that the probability of at least one fraud case occurring in a company is estimated as 2.4%. On the contrary, a company with weak identified governance variables had a probability of 97.6% vulnerability level.

Krishnan (2005) researched the relationship between the quality of audit boards and the quality of inside controls. The study focused on 128 companies that changed auditors over the period 1994-2000. The outcomes indicate that independent proficient auditors are seldom likened to inner control flaws. Alleyne and Howard (2005) did a perceptual analysis of auditors and found out that companies with internal auditors had a higher chance of detecting fraud. On the contrary, Moyes and Hasan (1996) contended that the detection of fraudulent activities in a company does not depend entirely on the presence of internal auditors but also

external auditors. This is so because both have equal chances of detecting fraud. Additionally, Ashbaugh-Skaife et al. (2007) carried out a study to find out the risk factors that may lead to internal control flaws. The outcome of the study indicated firms that reported internal control flaws had intricate processes, poor financial positions and were growing faster than others. The outcome demonstrated that the organizations with internal control flaws changed auditors frequently, restated their accounts and were audited by well-known audit firms.

### **2.3.2 Influence of Staff Attitude on Occupational Fraud Risk (Rationalization)**

It is of great importance that firms build corporate cultures that positively impact the behaviors of employees. Employee attitudes may be largely informed by the norms of the organization which include the treatment they receive from their employers and also the belief systems of the organization (Appelbaum, Laconi, & Matousek, 2007). Arjoon (2008) points out that a solid corporate culture has a substantial effect on employee behavior. Scholars, Zahra et al., (2005), Albrecht et al. (2001) and Erickson, Hanlon and Maydew (2006), used “red flags” to determine the motivations towards committing fraud. Zahra et al., (2005) indicated that red flags can be analyzed at societal level, industry level, organizational level or individual levels. At individual level, the red flags of fraud include financial strain, ego and rationalization (Duffield & Grabosky, 2001). ACFE (2010) views that red flags are unique to each type of fraud but some red flags are more evident in some frauds than others are.

Eseoghene (2010) studied fraud in Nigeria, with the objective of determining the common kinds of fraud in banks. The study uncovered that respondents did not see informal borrowing as an unethical practice since it was often and widely practiced. The study found that there was an equivalent level of staff contribution in starting and executing fraud. The study indicated that certain misconducts are practiced over and over to a point where they are viewed as a normal. This findings are in line Arjoon (2008) who sought to explain why great people do awful things utilizing a hypothetical system, the Continuum of Compromise (CoC). The CoC explains that employees may with time develop states of mind that compromise fraudulent actions due to continuous malpractices that are never called out on the onset. The findings also indicated that fraud is committed due to poor ergonomics and greed. Huiras, Uggen and McMorris, (2000) liken fraudulent activities carried out by employees to job dissatisfaction. According to the study, meaningful jobs that addressed both the financial

stability of an employee and career growth tended to reduce the likelihood of an employee committing fraud.

A study by ACFE (2010) found that staff operating in accounting, finance, operations, top management, customer service, and purchasing departments are much more likely to commit fraud than staff working in other departments. Globally, staff in any of the six departments commit 80% of the frauds. Fraud perpetrated by staff from these departments account for 80% of the fraud cases and 95% of the loss from occupational fraud. The perpetrator of fraud will in more often than not be a middle-aged male staff between 36- 45 years of age and has worked in the same organization between 1- 5 years (ACFE, 2010). In another recent survey, PWC (2011) report that fraud is perpetrated by disgruntled insiders or disillusioned employees who are usually young and more tech-savvy than their superiors are. In studying vulnerability to fraud, Langenderfer and Shimp (2001) propose a hypothesis that links the factors; age, social disconnection, psychological disability, naïveté and distrust to fraud. Then again, Duffield and Grabosky (2001) talk about the individual mental parts of extortion identifying with four misrepresentation classifications; extortion conferred against the company by senior authority, and by customer/worker, extortion submitted against one individual by another and misrepresentation conferred through print and electronic media.

Through extensive review of existing literature, desk study, Duffield *et al.* (2001) found that the common motivators for fraud include financial strain of the perpetrator, ego and hunger for power and the rationalization of the fraudsters. Nevertheless, the study did not contribute in explaining how the rationalization occurs and factors that enhance the same. Similarly, Albrecht and Dunn (2001) analyze the inspirations of committing fraud by investigating the connection between corporate structure, motivation, and employee behaviors. They suggest a precise way to identify fraud. The theory approach points out 'warning signs' and examines risky commercial agreements and suspicious organizations. However, the study did not point out traits in an individual that can determine whether one can commit fraud or not.

### **2.3.3 Influence of Employee Lifestyle on Occupational Fraud Risk (Pressure)**

Alleyne and Howard (2005) looked to determine the perspectives of auditors about the nature and degree of fraud. The examination discovered that the reasons for committing fraud were; moral standings, demanding lifestyles; people miserable with their occupation; people with

addictions; people with increased obligations; people seeing others commit fraud; and people feeling that the fraud they commit will not be discovered. Further, the outcomes demonstrated that misrepresentation isn't a noteworthy concern amongst organizations based in Barbados and those organizations, which have internal auditors, sound inward controls, and effective boards of directors are better furnished to manage fraud identification and counteractive actions. The findings strongly support the view that inner controls assume a key part in decreasing the probability of fraud committed in an organization. These findings are in line with Murdock (2008) who postulates that pressure is a strong element that determines whether an individual commits fraud. Pressure in this case refers to the need to own property, extramarital affairs and also the need to live lavishly.

According to Wells (2001) employees are likely to embezzle resources when faced with pressure. The study further indicates that employees discontented at work and who were not fairly treated would in most times end up engaging in criminal deception. This study findings can be replicated by Moorthy et al. (2001) who found that compensating employees fairly was an important factor that predicted how they would behave in being good managers of a company's resources. In examining computer crime, Yahla (2001) found that improving employee reward systems, and working conditions that reduce workload and pressure were effective ways of reducing computer crime.

Cressey (1971) interviewed almost 200 imprisoned thieves, including indicted officials and found that most committed fraud to meet their never ending financial obligations. Cressey found out that two different variables must be present for an individual to commit fraud. One only needed an opportunity to carry out and hide their wrongdoings, and also have the ability to justify their offenses (Cressey, 1971). According to Stone (1990), not all fraudulent employees are pushed to commit fraud because of the financial pressures and lifestyle demands, some are driven by the excitement that comes with stealing a lot of money.

## **2.4 Summary of the Literature**

All firms are likely to suffer losses through fraud. The vice has led to the collapse of big firms which in turn has affected stakeholders including investors, employees, and governments. Furthermore, the publicly reported fraud has caused companies their brand reputation and made them lose market shares due to lack of trust from investors. Such instances have pushed

most firms towards implementing measures to reduce fraud and its overall consequences. Great administration standards require that oversight bodies should be put in place to set up regulations that help to mitigate fraud. However, from literature review it is clear that despite all this efforts the retail sector is still experiencing huge losses from fraud. This study therefore sought to find out the factors influencing occupational fraud risk in supermarket chains in Kenya with all the preventive measures to deter and prevent fraud.

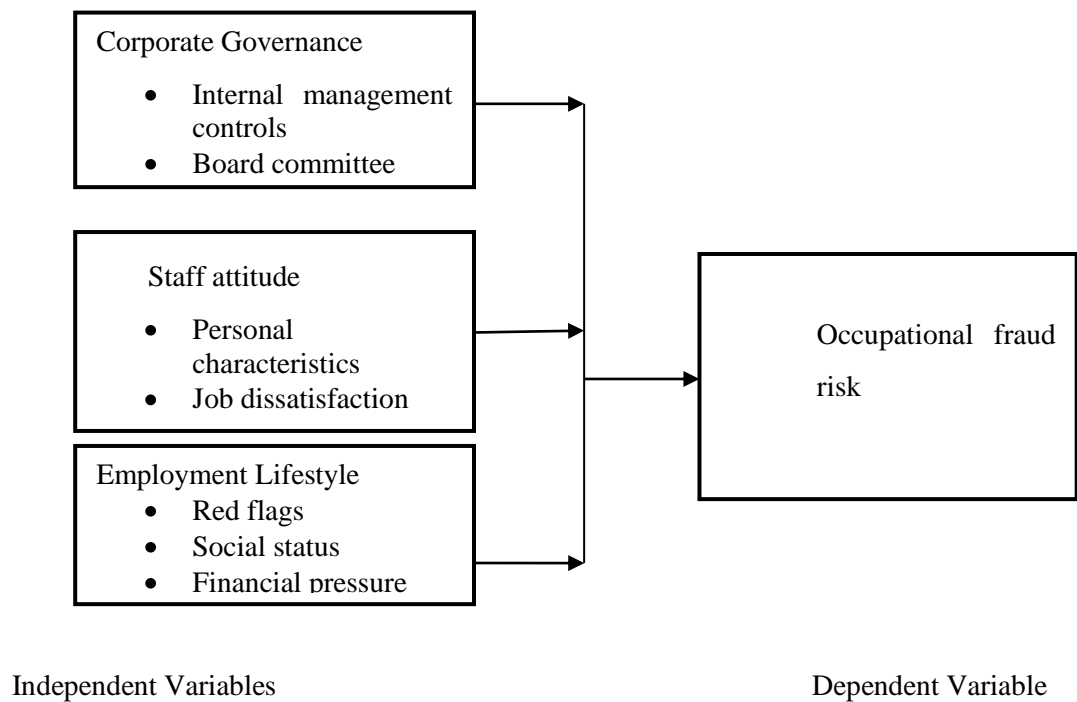
## **2.5 Research Gaps**

From the literature that has been reviewed, it is obvious that research on fraud has been done in the banking sector but not in the retail sector. Researchers such as Baker, 2003; Ball, 2009; Erickson & Maydew, 2006; Hochberg, Sapenza & Jrgensen, 2009; Miller, 2006; Bagnoli & Watts, 2010 have also focused on the effects of internal audit on fraud. Scholars, Moorthy et al. (2011), Kajalo and Lindblom (2011), Kulas, McInnerney, Demuth and Jawinski (2007), Kripple (2008) and Bassett (2003) and Daigle, Morris and Hayes (2009), studied the role of staff attitude on occupation fraud risk and why staff engage in theft at the work place.

In spite of the potential for fraud to undermine the growth and survivability of organizations, there has not been any research carried out on fraud in supermarket chains, particularly in Kenya. This study therefore intends to fill these pertinent gaps in literature by studying the factors influencing occupational fraud risk in supermarkets in Kenya. Despite supermarkets investing millions in fraud control and prevention; fraud still remains one of the biggest challenges in the industry. This study will add value to existing literature by providing empirical measures that retail chains in Kenya can take to improve on their occupational fraud management.

## 2.6 Conceptual Framework

Conceptual framework tries to establish the factors influencing occupational fraud risk in supermarket chains in Kenya. The study determines the influence of independent variables on the dependent variable. Figure 2.1 under shows the conceptual framework that was adopted in the study.



**Figure 2.1: Conceptual Framework**

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter outlines the method and the design that was adopted by the study in conducting the research. It details research design, population, sample and sampling techniques, data collection instruments, data collection procedures, pilot testing and data analysis.

### **3.2 Research Design**

A descriptive research design was employed in this study. According to Cooper and Schindler, (2011) such a design serves a wide range of targets. Orodho and Kombo, (2002) point out that the design is effective when gathering information about human being's, perceptions and behavior. Descriptive research assists to formulate vital ideas and answers to problems (Orodho, 2003).

### **3.3 Population**

Population is referred to as a large collection of individuals or objects that is the focus of a scientific query (Castillo, 2009). A target population can be defined as including all people or items with the characteristics one wishes to study and understand. The target population of the study comprised all the employees working in supermarkets. The study focused on all staff from managerial to non-managerial staff to avoid biasness. According to Kenya Revenue Authority, (2017), 22 supermarkets fall in the category of Medium and Large Taxpayers in Kenya as shown in Appendix III.

### **3.5 Sampling Frame**

The sampling frame for this study consisted of the list of all the 22 supermarkets categorized as they appear in the Medium and Large Taxpayers Office mandate (Appendix III). The employee data was derived from human resource records of the supermarkets in liaison with the human resource departments. According to McMillan and Schumacher, (2012) a sampling frame is a list of members of the research population from which a random sample may be drawn.

### 3.6 Sample and Sampling Technique

This study employed simple random sampling to select respondents. According to Mugenda and Mugenda (2003) and Kothari (2004) a population of more than ten thousand potential sampling units is called a large population and therefore this study had a target as well as accessible population of more than ten thousand cases and can be defined as a large population. The combined population of all employees in the supermarkets in Nairobi was more than ten thousand. A population of more than ten thousand potential sampling units is called a large population and therefore this study has a target as well as accessible population of more than ten thousand cases and can be defined as a large population (Mugenda and Mugenda, 2003). The following formula was used to determine the sample size.

$$n = Z^2 * p * (1-p) / d^2$$

Where:

n = Sample size

Z = value score (1.96)

p = 50% (0.5)

d = significance level

Therefore;

$$n = \frac{(1.96)^2 * (0.5)(0.5)}{(0.05)^2} = 384$$

The sample size was therefore 384 employees from all the supermarkets who were selected randomly from the supermarkets and their branches in Nairobi.

**Table 3.1: Population and Sample Matrix**

Category	Population( No. of supermarkets)	Sample size
Large	5	90
Medium	17	294
<b>Total</b>	<b>22</b>	<b>384</b>

### **3.7 Data Collection Instrument**

This study used primary sources of information gathered by the use of questionnaires issued out to supermarket employees. Kothari (2004) defines a questionnaire as a document that consists of a number of questions printed or typed in a definite order on a form or set of forms. According to Mugenda and Mugenda (2003) and Kothari (2004) these data collection instruments do not cost much and can be used widely. Questionnaires give respondents the time to answer the questions keenly.

### **3.8 Data Collection Procedure**

Data was collected through questionnaires. The questionnaires were sent to respondents with an introduction letter accompanied by an authorization letter from the University and a clearance letter from the supermarkets administration and management. Trained research assistants gathered data by administering 384 questionnaires. Data was then cleaned, sorted and collated after which it was then entered into the computer for analysis and subsequent presentation.

### **3.9 Pilot Study**

A pilot study was carried out beforehand to confirm the correctness and viability of the questionnaires. Two managers were selected to discuss the questionnaires. 10 employees were selected for the pilot study and their responses were input to SPSS after coding and the Cronbach Alpha reliability test was done. According to Sunders, Lewis & Thornhill, (2007) pilot studies are an important step in determining whether a questionnaire is unambiguous and correct.

### **3.10 Instrument Validity**

The questionnaire was discussed with supermarket managers to ensure it was logical and not ambiguous. A factor analysis was also carried out.

### **3.11 Instrument Reliability**

Reliability refers to the accurateness of a questionnaire (Jack & Clarke, 1998). The Cronbach's alpha reliability check was carried out to confirm the correctness of the survey

tool (Cronbach, 1951). Questionnaires were administered to 10 employees who were later not part of the study sample. The recommended Cronbach's Alpha coefficient is 0.7 for a newly developed questionnaire (Sekeran, 2006). Below are the results to the test.

**Table 3.2 Reliability Test**

Variable	Cronbach's Alpha	No. of items
Corporate Governance	0.868	11
Staff Attitude	0.756	5
Employee lifestyle	0.843	5
Occupational Fraud Risk	0.808	5

### 3.12 Data Analysis

According to Zikmund et al. (2010), data analysis is the understanding of data and the drawing of conclusions from it. Information was sorted, coded and input into the statistical package for social sciences (SPSS) for production of graphs, tables, descriptive statistics and inferential statistics. A multiple regression model was used to test the significance of the influence of the independent variables on the dependent variable. The multiple regression model was as laid below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

Y = Occupational Fraud Risk

X<sub>1</sub> = Governance

X<sub>2</sub> = Staff attitude

X<sub>3</sub> = Employee Lifestyle

$\beta_i = 1, \dots, 3$  measure of the sensitivity of the dependent variable (Y) to unit change in the predictor variables X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub> and B<sub>0</sub> = the Y intercept

$e$  = the error term which is assumed to be normally distributed with mean zero and constant variance.

### 3.13 Operationalization and Measurement of Study Variables

**Table 3.3: Operationalization and Measurement of Study Variables**

Type of variable	Variables	Measurement	Scale	Data collection method
Dependent	Occupational fraud risk	<ul style="list-style-type: none"> <li>• Loss made in last years</li> <li>• Type/Number of frauds</li> <li>• Frequency of fraud</li> <li>• Risk of bribery.</li> </ul>	Nominal /Ordinal Scale	Structured questionnaire
Independent	Corporate Governance	<ul style="list-style-type: none"> <li>• Internal controls</li> <li>• Fraud policy and whistle blowing policy</li> <li>• Board of directors in place for oversight</li> </ul>	Nominal /Ordinal Scale	Structured questionnaire
Independent	Staff attitude	<ul style="list-style-type: none"> <li>• Personal qualities</li> <li>• Job dissatisfaction</li> </ul>	Nominal /Ordinal Scale	Structured questionnaire
Independent	Employee Lifestyle	<ul style="list-style-type: none"> <li>• Red flags</li> <li>• Social status</li> <li>• Financial pressure</li> </ul>	Nominal /Ordinal Scale	Structured questionnaire

Source; Author (2017)

## CHAPTER FOUR

### DATA ANALYSIS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the findings of the study as laid out in Chapter 3. The analysis was based on the study's objectives where responses were interpreted and conclusions drawn on them.

##### 4.1.1 Sample representation

Three hundred and eighty four (384) questionnaires were administered to respondents. Out of the 384, 277 questionnaires were filled and returned. This represented an overall success response of 72%. According to Mugenda and Mugenda (2003), a response of 50% or more is good enough. Similarly, Wimmer and Dominick (2006) asserted that a response of 21% – 70% is acceptable for self-administered questionnaires. It ensures accuracy and minimizes bias.

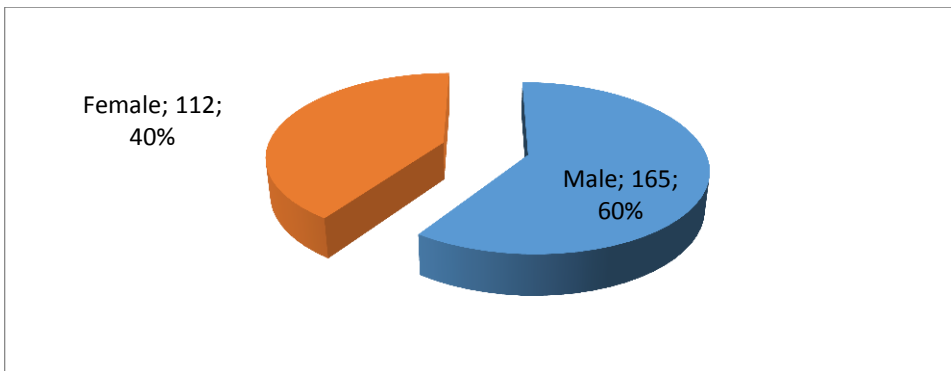
**Table 4.1: Response Rate**

<b>Response Rate</b>	<b>Frequency</b>	<b>Percent</b>
Returned	277	72%
Unreturned	107	28%
Total	384	100%

#### 4.2 Demographic representation

##### 4.2.1 Gender of the Respondents

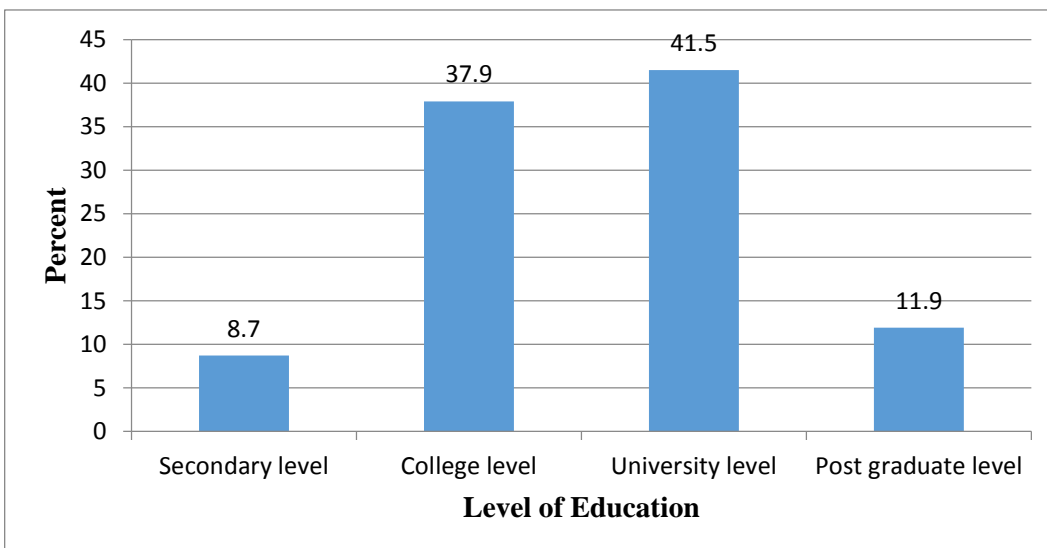
The study sought to establish the gender of the respondents. Results shown in Figure 4.1 indicate that majority (60%) were male while (40%) were female. The findings indicate that supermarket chains have more male employees than female.



**Figure 4.1: Gender of the Respondents**

#### 4.2.2 Level of Education

The respondents were requested to indicate their highest level of education. The findings in Figure 4.2 illustrate that 41.5% of the respondents had attained university education, while 37.9% of the respondents had attended college and 11.9% had attained postgraduate degrees. Only 8.7% of the respondents had attained secondary level. This indicates a good distribution of respondents that may be well versed with the subject matter.



**Figure 4.2: Level of Education**

#### 4.2.3 Experience of the Respondents

The study sought to discover the respondents' work experience in current employment. The study indicates that 35.7% of employees had worked between 1 to two years at the same time as 29.6% indicated between three to 5 years and 18.1% indicated more than 5 years. A full-

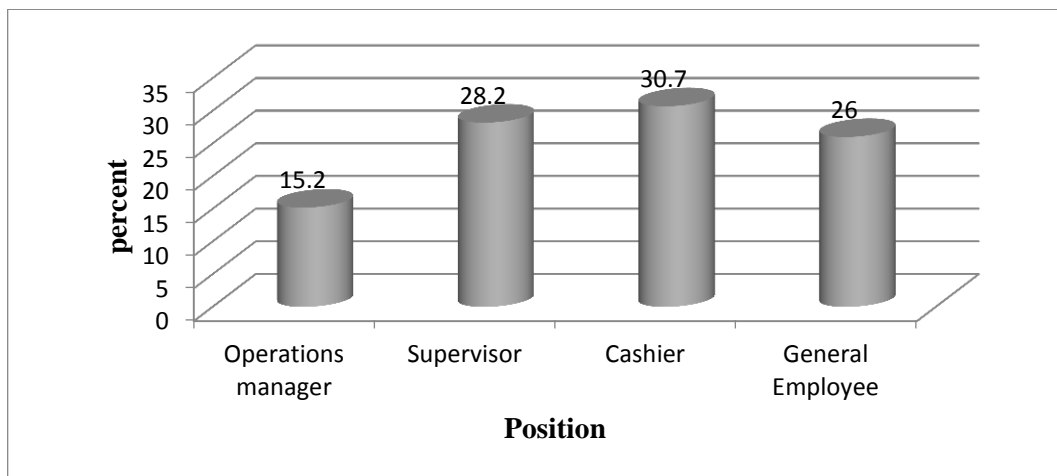
size quantity of the personnel (83.4%) had a tenure of over one year and therefore probably had reasonable understanding of the subject matter.

**Table 4.2: Experience of the Respondents**

<b>Experience</b>	<b>Frequency</b>	<b>Percent</b>
less than one year	46	16.6
1 to 2 year	99	35.7
3 to 5 years	82	29.6
More than 5 years	50	18.1
Total	277	100

#### **4.2.4 Position of the Respondents**

The respondents were asked to indicate their positions at the organization. Results in Figure 4.3 indicate that 30.7% of the respondents were cashiers, 28.2% were supervisors, and 26% were general employees while 15.2% were operations manager. The findings imply that the respondents were well distributed across the organization and thus no biasness hence advantage to the researcher because the respondents had knowledge about the issues the researcher was studying.



**Figure 4.3: Position of the Respondents**

### **4.3 Descriptive Statistics of Study Variables**

Descriptive statistics for the study variables namely; corporate governance, staff attitude, employee lifestyle and occupational fraud risk, are reported in this section.

### 4.3.1 Types of Fraud Experienced by Supermarkets

The study asked the employees to indicate the extent to which they encountered each type of fraud within their supermarket. A list of 10 types of frauds was given and respondents were asked to indicate any other not included in the list. This was measured in a 5-point Likert scale and the findings are presented in Table 4.3.

The most prevalent type of fraud is perpetrated through procurement with a mean of 3.98 followed by financial reporting fraud at 3.89. Discount abuse by employees and employees ringing in a sale at a lower amount than the item is priced were the least prevalent types of fraud with the lowest means of 3.6. The findings imply that the supermarkets were exposed to many types of fraud and all of them were experienced largely across the retail sector.

**Table 4.3: Types of Occupational Fraud**

<b>Occupational fraud</b>	<b>Mean</b>	<b>Std. Deviation</b>
Procurement fraud	3.98	1.051
Financial reporting fraud	3.89	1.129
Employee theft	3.85	1.093
Refund fraud	3.8	1.107
Product bagging (cashier ringing in a code for one item and bagging another)	3.79	1.101
Computer Fraud	3.71	1.223
Shop lifting	3.69	1.39
Vendor theft	3.69	1.205
Discount abuse by employees	3.6	1.319
Employee rings in a sale at a lower amount than the item is priced	3.6	1.286
<b>Average</b>	<b>3.76</b>	<b>1.190</b>

### 4.3.2 Influence of Corporate Governance on Occupational Fraud Risk

The first objective of the study was to determine the influence of corporate governance on occupational fraud risk in supermarket chains in Kenya. The percentage frequencies of the responses on corporate governance and the mean computed are presented in Table 4.4. The study findings suggest that majority of the respondents agreed that corporate governance influenced occupational fraud risk. This was supported through a mean rating of 3.83 and a standard deviation of 1.03. Respondents agreed that there were weak internal control systems in their firms and this had the highest mean score of 4. They also agreed to a lesser extent that employees had information regarding the internal control systems and thus were able to alter the information. This statement had the least mean of 3.6 and a standard deviation of 1.292.

**Table 4.4: Responses on Corporate Governance**

Statement	Mean	Std. Deviation
There are weak internal control systems in our firm	4	0.899
Performance goals for our institution are realistic and made known to all employees.	3.97	0.938
Fraud avoidance objectives have been included in the performance measures against which managers are assessed.	3.97	0.809
Supermarkets have a different Fraud and Corruption Policy.	3.9	1.011
Top managerial staff assume an important role in the oversight and execution of controls to mitigate fraud.	3.9	1.097
Fraud avoidance objectives have been included into the performance measures against which remuneration is determined.	3.88	0.885
There is a straightforward and clear structure of duty, which separates between what, the Board can do, and what employees can do.	3.84	1.115

The organization has built up, actualized and tried a procedure for oversight of fraud.	3.71	0.957
Internal audit is an important exercise in determining fraud	3.7	1.142
The camera surveillance in place are not monitored regularly by the management	3.69	1.138
The employees have information regarding the internal control systems and thus able to alter the information	3.6	1.292
<b>Average</b>	<b>3.83</b>	<b>1.03</b>

### 4.3.3 Influence of Staff Attitude on Occupational Fraud Risk

The second objective of the study was to assess the influence of staff attitude on occupational fraud risk in supermarket chains in Kenya. Table 4.5 shows that staff attitude had an influence on occupational fraud risk with an aggregate mean of 3.98 and a standard deviation of 1.0. Most of the respondents agreed that an employee's motive to commit fraud was high among jobs that paid less and those positions that have easy access to the company's assets with the highest mean of 4.1, followed by the statement on the organization having a strong ethical program in place which guides the organization at all times in cases of theft with a mean of 4.09. The respondents further agreed that job dissatisfaction from employees influenced the individual behavior and hence influenced the perceptual norms of the organization that conducts business with a mean of 4.01 while written policies and procedures had been developed and put in place governing transactions attracted a mean of 3.85. Job dissatisfaction from employees influenced the individual behavior and hence created an opportunity for theft had the lowest mean of 3.84.

**Table 4.5: Responses on Staff Attitude**

<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
Employee's motive to commit fraud is high among jobs that pay less and those positions that have easy access to the company's assets.	4.1	0.897

There is a strong ethical program in place which guides the organization at all times in cases of theft	4.09	1.079
Job dissatisfaction from employees influences the individual behavior and hence influence the perceptual norms of the organization that conducts business	4.01	0.934
Written policies and procedures been developed and put in place governing transactions.	3.85	1.2
Job dissatisfaction from employees influence the individual behavior and hence create an opportunity for theft	3.84	0.914
<b>Average</b>	<b>3.98</b>	<b>1.00</b>

#### **4.3.4 Influence of Employee Lifestyle on Occupational Fraud Risk**

The third and last objective of the study was to establish the influence of employee lifestyle on occupational fraud risk on occupational fraud risk in supermarket chains in Kenya. Table 4.6 indicates that most of the respondents agreed that the employees in charge of stores and procurement liaise with suppliers to commit fraud by receiving goods short of quality and quantity specified in the invoice due to lifestyle habits. This statement had the highest mean of 4.02, followed by employee closeness with suppliers and customers can indicate the possibility of fraud by staff with a mean of 3.97. Employees engaged in fraudulent activities due to living beyond their means ha a mean score of 3.93. In addition, results indicated that an overwhelming desire for personal gains drives the employees to committing fraud attracted the lowest mean of 3.74 while the statement on employees liaising with customers to carry out goods of higher prices without paying for them due to financial pressures attracted a mean of 3.83. The findings imply that the supermarkets should look for certain characteristics in their employees when recruiting new staff, and in furtherance conduct regular staff reviews and audits because some characters may develop over time and an employee may end up being a fraudster. For example, employees can be forced by circumstances to start living beyond their means or even start feeling unappreciated at work and this can lead to fraud in order to satisfy their wants.

Table 4.6: Employee Life Style

<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
The employees in charge of stores and procurement liaises with suppliers to commit fraud by receiving goods short of quality and quantity specified in the invoice due to lifestyle habits	4.02	1.072
Employee closeness with suppliers and customers can indicate the possibility of fraud by the staff	3.97	0.916
Employees engage in fraudulent activities due to living beyond their means	3.93	1.001
The employees liaise with customers to carry out goods of higher prices without paying for them due to financial pressures	3.83	1.181
An overwhelming desire for personal gains drives the employees to committing fraud	3.74	1.083
<b>Average</b>	<b>3.90</b>	<b>1.05</b>

#### 4.3.5 Occupational Fraud Risk in Supermarkets in Kenya

The study sought to find out the level of agreement and disagreement in regards to fraud risk exposure in the supermarkets. Results on Table 4.7 indicate that the number of occupational fraud instances have been reducing in the last 5 years at a mean of 3.85. The frequency of occupational fraud has been reducing in the last 5 years with a mean of 3.76 and the amounts involved in occupational fraud have been reducing in the last 5 years which attracted a mean of 3.86. Further, the results indicated that the retail sector is highly vulnerable to risk of bribery and corruption due to high levels of third party touch points in the Procurement and Supply Chain with a mean score of 3.64 while shrinkage and loss or theft of inventory had reduced over the 5 years attracted a mean of 3.81.

**Table 4.7: Occupational fraud risk**

<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
The amount involved in occupational fraud has been reducing in the last 5 years	3.86	1.004
The number of occupational fraud has been reducing in the last 5 years	3.85	1.044
Shrinkage and loss or theft of inventory has reduced over the 5 years	3.81	0.999
The frequency of occupational fraud has been reducing in the last years	3.76	1.054
Retail sector is highly vulnerable to risk of bribery and corruption due to high level of third party touch points in the Procurement and Supply Chain	3.64	1.079
<b>Average</b>	<b>3.78</b>	<b>1.04</b>

#### 4.4 Diagnostic Tests

The study applied skewness and kurtosis statistics to find out the normality of variables and as recommended by Myoung (2008), a variable is moderately close to normal if its skewness and kurtosis have values between -1.0 and + 1.0. The results presented in table 4.8 shows that occupational fraud risk had a skewness coefficient of -0.692 and its kurtosis coefficient being -0.038. Based on this it was concluded that occupational fraud risks are normally distributed since they lie within the  $\pm 1$  range recommended by Myoung (2008). Table 4.8: Normality Test for Occupational Fraud Risk

<b>Variable</b>		<b>Statistic</b>	<b>Std. Error</b>	<b>Conclusion</b>
Occupational Fraud risk	Skewness	-0.692	0.146	Normally Distributed
	Kurtosis	-0.038	0.292	

In order to establish the relationship among the sample characteristics, a correlation analysis was conducted.

#### 4.5.1 Relationship between Corporate Governance and Occupational fraud risk

The results presented in Table 4.9 are a correlation matrix showing the relationship between occupational fraud risk and corporate governance. The findings indicate that there is a significant positive linear relationship between occupational fraud risk and corporate governance ( $r= 0.666$ ,  $p \text{ value}= 0.000$ ) at  $P < 0.05$  significance level. This reveals that any positive change in corporate governance effectiveness would lead to reduced occupational fraud risk. The relationship has been illustrated by the correlation co-efficient of 0.666, implying a positive relationship. This was also evidenced by the  $p$  value of 0.000, which is less than the critical value (0.05). The correlation between the variables indicates that if the supermarkets take up adoption of effective corporate governance mechanisms then this would lead to a reduction of occupational fraud risk as indicated by a positive correlation between the two variables.

**Table 4.9: Correlation Matrix of Corporate Governance and Occupational fraud risk**

Variable		Occupational fraud risk	Corporate Governance
Fraud risk Exposure	Pearson	1	
	Correlation		
	Sig. (2-tailed)		
Corporate Governance	Pearson	0.666**	1
	Correlation		
	Sig. (2-tailed)		

\*\* Correlation is significant at the 0.01 level (2-tailed).

#### 4.5.2 Relationship between Staff Attitude and Occupational fraud risk

Table 4.10 shows the Pearson’s correlation coefficient matrix on the relationship between staff attitude and occupational fraud risk in the supermarkets in Kenya. The results indicated that there exists a positive and significant relationship ( $r=0.629$ ,  $p=0.000$ ) between staff attitude and occupational fraud risk. This reveals that any positive change in staff attitude led to improved occupational fraud risk curbing. The relationship has been illustrated by the correlation co-efficient of 0.629, implying a positive relationship. This was also evidenced by the p value of 0.000, which is less than the critical value (0.05). The correlation between the variables indicates that if staff attitude was continually improved in supermarkets then this would be associated with a reduction of occupational fraud risk as indicated by the positive correlation between the two variables.

**Table 4.10: Correlation Matrix of Staff Attitude and Occupational fraud risk**

Variable		Occupational fraud risk	Staff Attitude
Occupational fraud risk	Pearson Correlation	1	
	Sig. (2-tailed)		
Staff Attitude	Pearson Correlation	0.629**	1
	Sig. (2-tailed)	0.000	

\*\* Correlation is significant at the 0.01 level (2-tailed).

#### 4.5.3 Relationship between Employee Lifestyle and Occupational fraud risk

Table 4.11 shows the Pearson’s correlation coefficient matrix on the relationship between employee lifestyle and occupational fraud risk in the supermarkets in Kenya. The results indicated that there exist a positive and significant ( $r=0.700$ ,  $p=0.000$ ) between employee lifestyle and occupational fraud risk exposure. This reveals that any positive change in employee lifestyle led to improved occupational fraud risk curbing. The correlation between the variables indicates that if employee lifestyle such as reward and compensation satisfaction is enhanced by the supermarkets then this would be associated with an improvement in curbing occupational fraud risk as indicated by a positive correlation between the two variables.

**Table 4.11: Correlation Matrix of Employee Lifestyle and Fraud Risk Exposure**

Variable		Occupational fraud risk	Employee Lifestyle
Occupational fraud risk	Pearson Correlation	1	
	Sig. (2-tailed)		
	Pearson Correlation	0.700**	1
Employee Lifestyle	Sig. (2-tailed)	0	

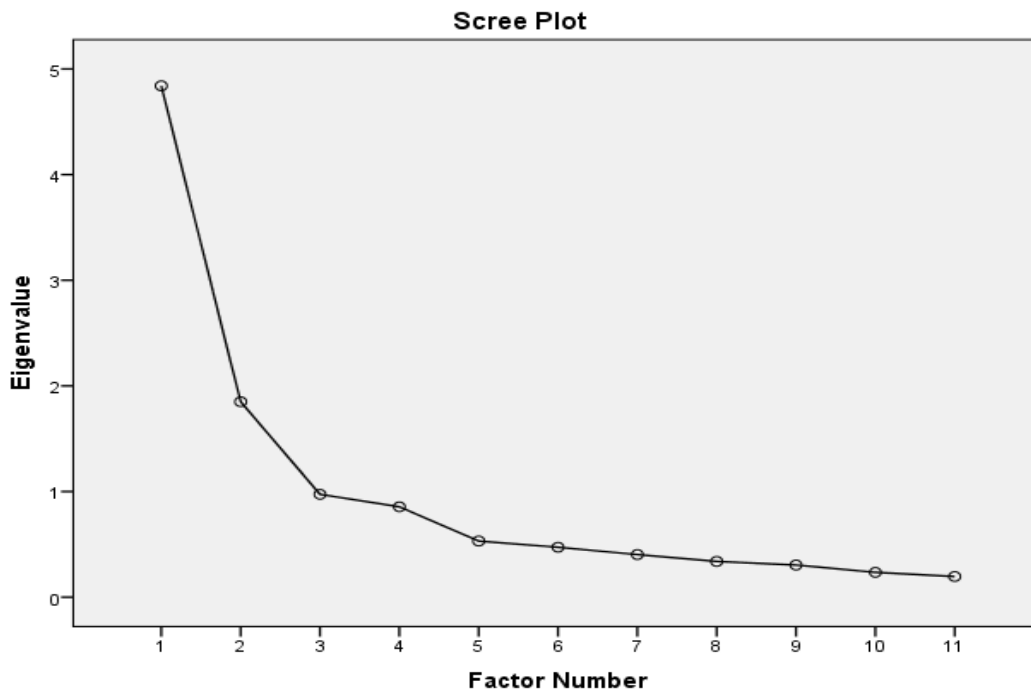
\*\* Correlation is significant at the 0.01 level (2-tailed).

#### 4.6 Factor Analysis

Factor analysis was conducted using Principal Axis Factoring approach.. The factor loadings for all variables are presented below.

##### 4.6.1 Factor Analysis for Corporate Governance

The results showed that there were two critical factors of corporate governance measures that influenced occupational fraud risk in the supermarkets. This implies that the statements were loading to the two sub-constructs as indicated in the conceptual framework where factor one loaded the statements addressing internal management controls while factor two loaded the statements addressing board committees. The total variance explained by the two factors was 52.745% as shown in Appendix IV. Figure 4.4 shows the scree plot. The scree plot graphs the eigenvalue against the factor number. As shown in Figure 4.4 below, the Eigen value for the two factors are 4.841 and 1.85. The first and second factors account for the highest amount of total variance.



**Figure 4.4: Scree Plot for Corporate Governance**

Table 4.10 shows the unrotated factor loadings, which are the correlations between the variable and the factor. Because these are correlations, possible values range from -1 to +1.

**Table 4.10: Factor Matrix for Corporate Governance**

	Factor	
	1	2
Fraud avoidance objectives have been included into the performance measures against which remuneration is determined.	0.717	-0.416
Supermarkets have a different Fraud and Corruption Policy.	0.704	0.049
There is a straightforward and clear structure of duty, which separates between what, the Board can do, and what employees can do.	0.695	0.412
Internal audit is important in determining fraud.	0.681	0.451
Fraud avoidance objectives have been included in the performance measures against which managers are assessed.	0.675	-0.389
Top managerial staff assume an important role in the oversight and execution of controls to mitigate fraud.	0.646	-0.4
The organization has built up, actualized and tried a procedure for	0.622	-0.41

oversight of fraud.

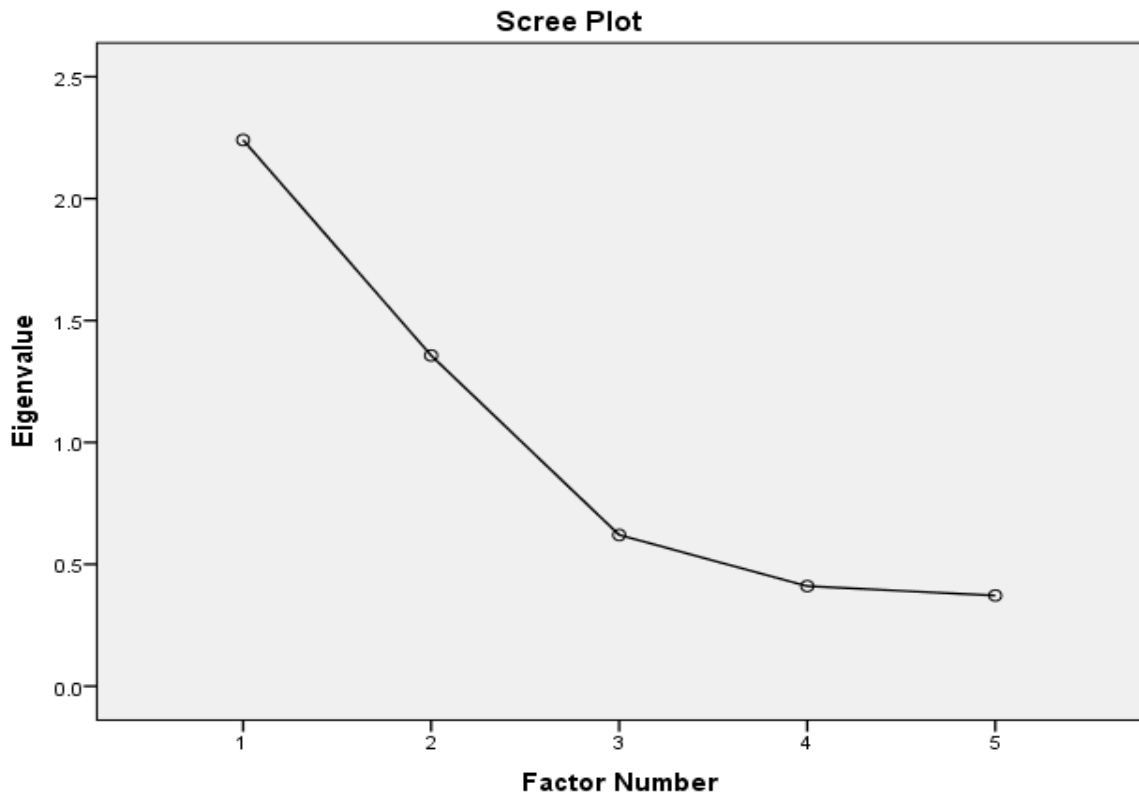
The employees have information regarding the internal control systems and thus able to alter the information	0.588	0.417
The camera surveillance in place are not monitored regularly by the management	0.548	0.293
There are weak internal control systems in our firm	0.519	0.284
Performance goals for our institution are realistic and made known to all employees.	0.508	-0.21

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Extraction Method: Principal Axis Factoring.  
a 2 factors extracted. 6 iterations required.

#### **4.6.2 Factor Analysis for Staff Attitude**

The results showed that there was only one critical factor of staff attitude measures that influenced occupational fraud risk in the supermarkets. This implies that all the statements were loading to one factor, which means that the statements were highly correlated. The total variance explained by the factor is 31.787% as shown in Appendix IV. Figure 4.5 shows the scree plot. The scree plot graphs the eigenvalue against the factor number. As shown in Figure 4.5 below, the Eigen value for the two factors are 2.241 and 1.357. The first and second factors account for the highest variance.



**Figure 4.5: Scree Plot for Staff Attitude**

Results shown on Table 4.11 indicate that the statements were highly correlated with 0.396 being the lowest correlation coefficient thus meaning that it loaded to a small percentage of the total variance.

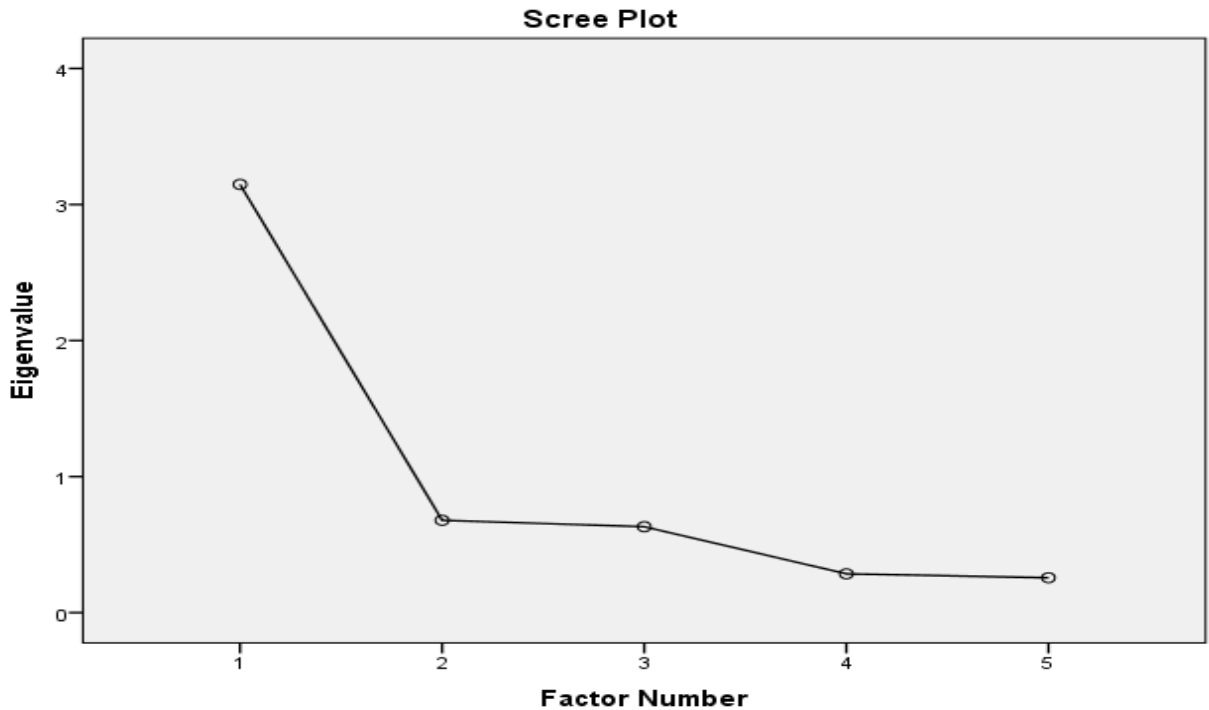
**Table 4.11: Factor Matrix for Staff Attitude**

	<b>Factor 1</b>
Job dissatisfaction from employees influence the individual behavior and hence create an opportunity for theft	0.679
Written policies and procedures been developed and put in place governing transactions.	0.627
There is a strong ethical program in place which guides the organization at all times in cases of theft	0.601
Job dissatisfaction from employees influence the individual behavior and hence influence the perceptual norms of the organization that conducts business	0.465
Employee's motive to commit fraud is high among jobs that pay less and those positions that have easy access to the company's assets.	0.396

Extraction Method: Principal Axis Factoring.  
a 1 factors extracted. 8 iterations required.

### **4.6.3 Factor Analysis for Employee Lifestyle**

The results showed that there was only one critical factor of employee lifestyle measures that influenced occupational fraud risk in the supermarkets. This implies that all the statements were loading to one factor, which means that the statements were highly correlated. The total variance explained by the factor is 54.583% as shown in Appendix IV. Figure 4.6 shows the scree plot. The scree plot graphs the eigenvalue against the factor number. As shown in Figure 4.6 below, the Eigen value for the first factor is 3.147. The first factor accounts for the highest variance.



**Figure 4.6: Scree Plot for Employee Lifestyle**

Results shown on Table 4.12 indicate that the statements were highly correlated with 0.561 being the lowest correlation coefficient thus meaning that it loaded to a small percentage of the total variance.

**Table 4.12: Factor Matrix for Employee Lifestyle**

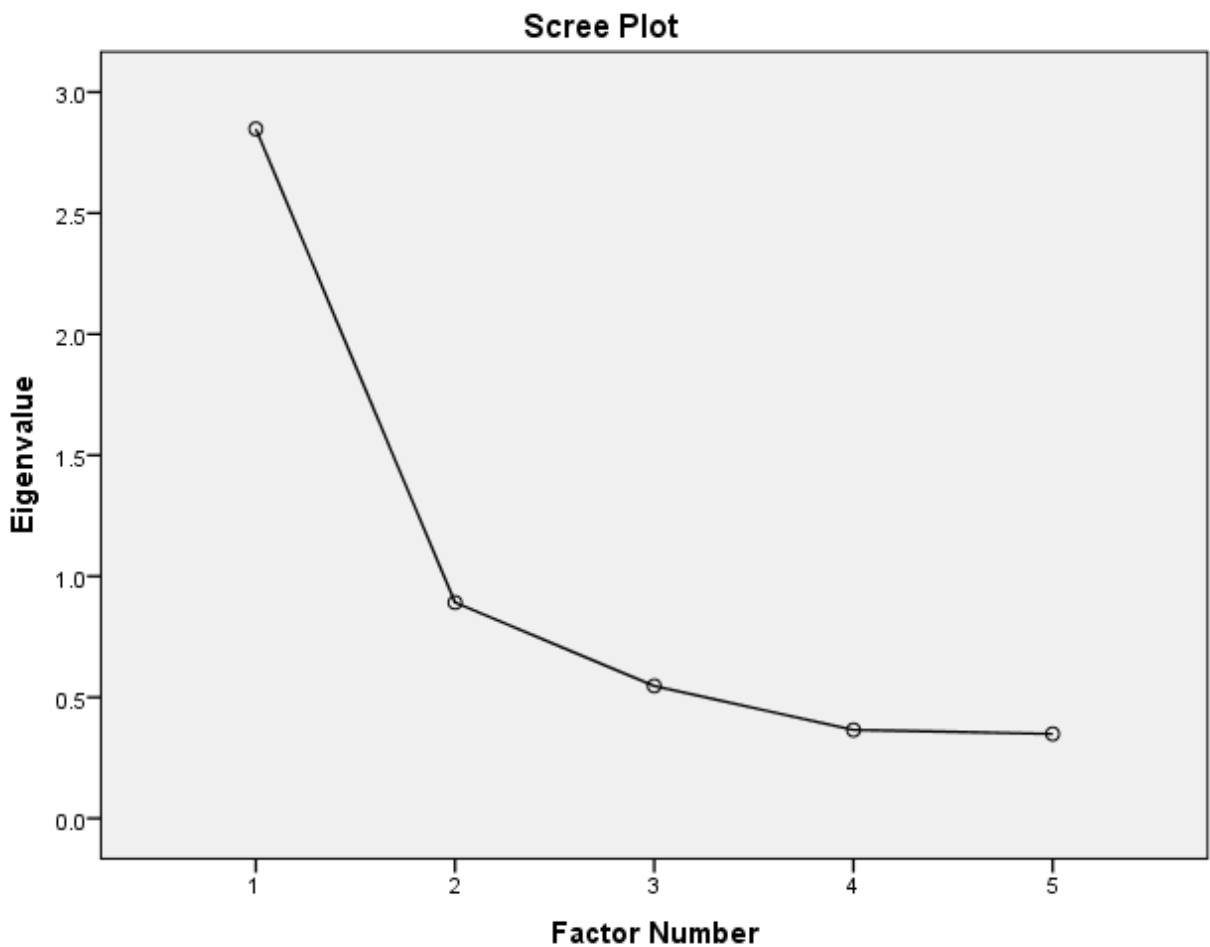
	<b>Factor 1</b>
Employees engage in fraudulent activities due to living beyond their means	0.85
Employee closeness with suppliers and customers can indicate the possibility of fraud by the staff	0.846
The employees in charge of stores and procurement liaises with suppliers to commit fraud by receiving goods short of quality and quantity specified in the invoice due to lifestyle habits	0.707
An overwhelming desire for personal gains drives the employees to committing fraud	0.69
The employees liaise with customers to carry out goods of higher prices without paying for them due to financial pressures	0.561

Extraction Method: Principal Axis Factoring.

a 1 factor extracted. 6 iterations required.

#### 4.6.4 Factor Analysis for Occupational Fraud Risk

The results showed that there was only one critical factor of occupational fraud risk measures. This implies that all the statements were loading to one factor, which means that the statements were highly correlated. The total variance explained by the factor is 47.021% as shown in Appendix IV. Figure 4.7 shows the scree plot. The scree plot graphs the eigenvalue against the factor number. As shown in Figure 4.7 below, the Eigen value for the first factor is 2.848. From the second factor on, you can see that the line is almost flat, meaning the each successive factor is accounting for smaller and smaller amounts of the total variance.



#### Figure 4.7: Scree Plot for Occupational Fraud risk

Table 4.13 shows the unrotated factor loadings, which are the correlations between the variable and the factor. Because these are correlations, possible values range from -1 to +1. Results show the statements were highly correlated with 0.479 being the lowest correlation coefficient thus meaning that it loaded to a small percentage of the total variance.

**Table 4.13: Factor Matrix for Occupational Fraud Risk**

	<b>Factor 1</b>
Retail sector is highly vulnerable to the risk of bribery and corruption due to a high level of third party touch points in the Procurement and Supply Chain	0.759
The amounts involved in occupational fraud have been reducing in the last 5 years	0.753
The frequency of occupational fraud has been reducing in the last 5 years	0.752
The number of occupational fraud types have been reducing in the last 5 years	0.644
Shrinkage and loss or theft of inventory has reduced over the 5 years	0.479

Extraction Method: Principal Axis Factoring.

a 1 factors extracted. 6 iterations required.

#### 4.7 Regression Analysis

In order to establish the statistical significance of the independent variables on the dependent variable (occupational fraud risk) regression analysis was employed. Table 4.14 shows that the coefficient of determination also called the R square is 0.541. This means that the combined effect of the predictor variables (corporate governance, staff attitude and employee lifestyle) explains 54.1% of the variations in occupational fraud risk. From the model summary table below adjusted  $R^2$  was 0.536 this indicates that the combined effect of predictor variables (corporate governance, staff attitude and employee lifestyle) explains 53.6% of variations in occupational fraud risk.

The correlation coefficient of 73.5% indicates that the combined effect of the predictor variables has a strong and positive correlation with occupational fraud risk in supermarkets in Kenya. This also meant that a change in the drivers of occupational fraud risk (corporate governance, staff attitude and employee lifestyle) has a strong and a positive effect on occupational fraud risk. The findings imply that if the supermarkets do not have strong and

effective corporate governance, their staff are not well motivated and given a conducive environment for working then they will be exposed to occupational fraud risk.

**Table 4.14: Regression Model Fitness**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.735a	0.541	0.536	0.51765

a Predictors: (Constant), Employee Lifestyle, Staff Attitude, Corporate Governance

Analysis of variance (ANOVA) on Table 4.15 shows that the combined effect of (corporate governance, staff attitude and employee lifestyle) was statistically significant in explaining changes in occupational fraud risk. This is demonstrated by a p value of 0.000, which is less than the acceptance critical value of 0.05.

**Table 4.15: ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.073	3	28.691	107.07	.000b
	Residual	73.155	273	0.268		
	Total	159.228	276			

a Dependent Variable: Fraud risk Exposure

b Predictors: (Constant), Employee Lifestyle, Staff Attitude, Corporate Governance

Table 4.16 displays the regression coefficients of the independent variables. The results reveal that corporate governance is statistically significant in explaining occupational fraud risk (beta=0.248, p value 0.002). The findings imply that an increase in corporate governance negligence by one unit leads to increased occupational fraud risk exposure at a rate of 24.8%.

Regression results indicate that staff attitude and occupational fraud risk had a positive and significant relationship (beta=0.212 p value 0.002). The findings imply that an increase in staff attitude by one-unit leads to increased occupational fraud risk exposure at a rate of 21.2%.

Finally, the results indicated that employee lifestyle had a positive and significant relationship with occupational fraud risk (beta=0.345, p value 0.000). The findings implied that employee lifestyle was statistically significant in explaining occupational fraud risk of supermarkets in

Kenya. In furtherance, the findings imply that an increase in employee lifestyle change by one unit leads to increased occupational fraud risk exposure at a rate of 34.5%.

It is important to note that the predictor variables have very high p values indicating a high significance yet they only explain 54.1% of the variance. This implies that there are other critical factors that influence occupational fraud.

**Table 4.16: Regression Coefficients**

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	0.697	0.191		3.647	0.000
	Corporate Governance	0.248	0.077	0.227	3.206	0.002
	Staff Attitude	0.212	0.068	0.194	3.111	0.002
	Employee Lifestyle	0.345	0.065	0.381	5.332	0.000

a Dependent Variable: Fraud risk Exposure

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

The chapter sought to establish the factors influencing occupational fraud risk in retail chains in Kenya. This chapter finalizes the study by laying out the discussion of findings, conclusions and recommendations aligned to the study objectives.

#### **5.2 Discussion of Findings**

The main objective of the study was to establish the factors influencing occupational fraud risk in retail chains in Kenya. The findings indicated that the level of occupational fraud risk has reduced to a little extent and this could be attributed to the fact that supermarkets have put in place internal control systems. However, the vice has not been curbed fully due to weak control systems, job dissatisfaction among employees, easy access to the organization's resources and demanding lifestyle habits. The sector is also exposed of bribery due to high level of third party touch points in the Procurement and Supply Chain.

##### **5.2.1 Corporate Governance and Occupation Fraud Risk**

The first objective of the study was to determine the influence of corporate governance on occupational fraud risk in supermarket chains in Kenya. Most of the respondents concurred that corporate governance influenced occupational fraud risk. The study found out that there were weak internal control systems in supermarkets. The findings further indicated that supermarkets had articulated responsibilities to the board and employees clearly but to a moderate extent. Respondents agreed that the internal audit was important in administration and detecting fraud. Results further indicated that the employees had information regarding the internal control systems and thus able to alter the information and the camera surveillance in place were not monitored regularly by the management thus increasing chances of experiencing occupational fraud risks. Correlation and regression results indicated that corporate governance and occupational fraud risk had a positive and significant relationship.

The study findings are in line with Tamer (2012) who carried out an empirical analysis on the determinants of fraud in Turkey. Using the fraud Triangle theory, he evaluated the corporate

governance principles in prominent companies in various sectors and the extent to which they created opportunities, incentives and rationalization and therefore increasing the vulnerability of companies to fraud. The data was collected from 146 executive managers, using self-administered questionnaires. Tamer (2012) used the number of fraud cases faced by the executives as the dependent variable. The amount of fraud cases, the existence of fraud policies, the existence of written fraud procedures, the level of company revenue, the number of workers in a company and publicly traded companies were used to predict the probability of fraud occurring in a company. The logit model results of the survey indicate that the probability of at least one fraud case occurring in a company is estimated as 2.4%. On the contrary, a company with weak identified governance variables had a probability of 97.6% vulnerability level.

Krishnan (2005) researched the relationship between the quality of audit boards and the quality of inside controls. The study focused on 128 companies that changed auditors over the period 1994-2000. The outcomes indicate that independent proficient auditors are seldom likened to internal control flaws. Alleyne and Howard (2005) did a perceptual analysis of auditors and found out that companies with internal auditors had a higher chance of detecting fraud. On the contrary, Moyes and Hasan (1996) contended that the detection of fraudulent activities in a company does not entirely depend on the presence of internal auditors but also external auditors. This is so because both have equal chances of detecting fraud.

### **5.2.2 Staff Attitude and Occupational Fraud Risk**

The second objective of the study was to assess the influence of staff attitude on occupational fraud risk in supermarket chains in Kenya. The findings indicated that employee's motive to commit fraud was heightened among lower-paying jobs and to those in positions that have easy access to money or merchandise. It was found that job dissatisfaction from employees influenced the individual behavior and hence created an opportunity for theft. Job dissatisfaction from employees also influenced the individual behavior and hence influenced the perceptual standards of an organization. The study findings indicated that staff attitude influences occupational fraud risk. The study findings imply that retail chains should establish a watertight vetting process and encourage human resource departments to conduct detailed vetting and reference of every staff including investing in early detection mechanisms on staff behaviors and attitudes. Staff rotation is also important since it increases employee interest and

motivation. Correlation and regression results indicated that there exists a positive and significant relationship between staff attitude and occupational fraud risk.

The study findings are in line with Huiras, Uggen and McMorris, (2000) who liken fraudulent activities carried out by employees to job dissatisfaction. According to the study, meaningful jobs that addressed both the financial stability of an employee and career growth, tended to reduce the likelihood of an employee committing fraud.

On the other hand, Eseoghene (2010) studied fraud in Nigeria, with the objective of determining the common kinds of fraud in banks. The study found that there was an equivalent level of staff contribution in starting and executing fraud. The study indicated that certain misconducts are practiced over and over to a point where they were perceived as normal. Arjoon (2008) sought to explain why great people do awful things utilizing a hypothetical system, the Continuum of Compromise (CoC). The CoC explains that employees may with time develop states of mind that compromise fraudulent actions due to continuous malpractices that are never called out on the onset. The findings also indicated that fraud is committed due to poor ergonomics and greed.

### **5.2.3 Employee Lifestyle and Occupational Fraud Risk**

The third and last objective of the study was to establish the influence of employee lifestyle on occupational fraud risk in supermarket chains in Kenya. The study findings indicated that the employees in charge of stores and procurement liaise with suppliers to commit fraud by receiving goods short of quality and quantity due to lifestyle habits. Employee closeness with suppliers and customers indicates the possibility of fraud by the staff. It was clear from the findings that employees engaged in fraudulent activities due to living beyond their means. The findings imply that the supermarkets should look for certain characteristics in their employees when recruiting new staff, and in furtherance, conduct regular staff reviews and audits because some characteristics may develop over time and an employee may end up being a fraudster. For example, employees can be forced by circumstances to start living beyond their means or even start feeling unappreciated at work and this can lead to fraud in order to satisfy ego gaps. Correlation and regression results indicated that there exists a positive and significant relationship between employee lifestyle and occupational fraud risk.

The study findings are in line with Alleyne and Howard (2005) who looked to determine the perspectives of auditors about the nature and degree of fraud. The examination discovered that the reasons for committing fraud were; demanding lifestyles, questionable morals, people miserable with their occupation; people with addictions; people with increased obligations; people seeing others commit fraud; and people feeling that the fraud they commit will not be discovered. These findings are in line with Murdock (2008) who postulates that pressure is a strong element that determines whether an individual commits fraud. Pressure in this case refers to the need to own property, extramarital affairs and also the need to live luxurious lives. On the other hand, employees are not necessarily pushed to commit fraud because of the financial pressures and lifestyle demands. Some are driven by the excitement that comes with stealing a lot of money (Stone, 1990).

### **5.3 Conclusions**

The study findings indicated that corporate governance influences occupational fraud risk. The study therefore concludes that laxity in management can create high chances of occupational fraud risk. The retail chain sector can reap reasonable benefits in reducing occupational fraud by continuously reviewing the management controls through making a feasible balance between resource allocation and occupational fraud exposure. It is also evident that disproportionate levels of trust among staff can be quite detrimental within the sector and therefore, managerial policies and processes should be applied at all times.

Supermarkets should ensure that staff are well motivated through good allowances and reward systems, better working conditions and achievable job deliverables. This partly ensures that pressure for occupational fraud is reduced in supermarkets. The study concludes that staff attitude can change drastically especially if the employee is not satisfied with his or her job or when they are not well paid thus presenting opportunities of carrying out occupational fraud.

Employee lifestyle was found to have a significant influence on occupational fraud risk in supermarkets in Kenya. The study concludes that employees engaged in fraudulent activities due to living beyond their means. The study further concludes that regulators and management of supermarkets in Kenya may be far from curbing the vice if strong occupational fraud deterrence measures are not instituted, specifically leveraging on staff personal characteristics. In addition, it can be logically concluded that, retail outlets that carefully and thoroughly

evaluate staff before hiring, closely cultivate and monitor adherence to the laid organization controls, extend trust to staff only after demonstration of work ethics and honesty, are less susceptible to occupational frauds.

## **5.4 Recommendations**

### **5.4.1 Managerial recommendations**

The management should ensure that internal controls are adequate enough to prevent fraudulent activities. This can be done by putting in place strict policies, reporting all persons involved in fraud to relevant authorities, ensuring that employees are rotated within various departments and are also allowed to go on leave. Organizations should also conduct lifestyle checks on their employees to ensure that there are no inconsistencies between what they earn and the lifestyles they have. Management should conduct risk profiling on any suspicious employees in order to undertake the lifestyle checks.

### **5.4.2 Policy recommendations**

Management should institute elaborate occupational fraud policies. Staff should be trained on fraud policies upon hiring as it was identified to be one of the key fraud measures missing within the retail sector. Costs of occupational fraud should be reported to staff and this can bring to the attention of supermarket staff, the importance and relevance of all controls instituted by the management. In addition, internal auditors, supermarkets should ensure that a competent anti- fraud professional is adequately equipped to support fraud deterrence within the organization. This professional can continuously inform the board on the developments in fraud “business” and the emerging effective controls necessary to curb the vice.

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## APPENDICES

### Appendix I: Letter of introduction

Managing Director

Nairobi – Kenya

To whom it may concern,

#### **RE: REQUEST FOR PERMISSION TO COLLECT DATA**

I am a postgraduate student at Strathmore University. I am conducting a study titled “*Factors influencing occupational fraud in supermarkets in Kenya*”. A questionnaire has been developed to assist in amassing applicable data for this study. I ask for your permission to be allowed to administer the questionnaires to your employees.

Your assistance will be highly appreciated. Kindly note that this is exclusively for the purposes study and that it will be treated with confidentiality and the respondents anonymity will be highly regarded.

Yours Sincerely,

**Diana Matagaro**

## Appendix II: Questionnaire

### PART 1: GENERAL /DEMOGRAPHIC DATA

1. Gender

a) Male

b) Female

2. Highest level of education

a) Secondary level

b) College level

c) University level

d) Post graduate level

3. Work experience

a) less than one year

b) 1 to 2 year

c) 3 to 5 years

d) More than 5 years

4. Current position in the organization.

a) Operations manager

b) Supervisor

c) Cashier

d) General Employee

## Section B: Types of Fraud

This section has statements regarding the type of occupational fraud that your supermarket faces.

No.	Statement	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
		1	2	3	4	5
1.	Shop lifting					
2.	Employee theft					
3.	Procurement fraud					
4.	Financial reporting fraud					
5.	Discount abuse by employees					
6.	Computer Fraud					
7.	Refund fraud					
8.	Product bagging (cashier ringing in a code for one item and bagging another)					
9.	Employee rings in a sale at a lower amount than the item is priced					
10.	Vendor theft					

Please add any other information which in your opinion is relevant in regard to the type of occupational frauds experienced in the supermarket.

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**Section C: Corporate Governance and Occupational Fraud Risk**

This section has statements regarding the effect of governance on occupational fraud risk in supermarket chains in Kenya.

<b>No</b>	<b>Statement</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
		1	2	3	4	5
1.	Fraud avoidance objectives have been included into the performance measures against which remuneration is determined.					
2.	Fraud avoidance objectives have been included in the performance measures against which managers are assessed.					
3.	Supermarkets have a different Fraud and Corruption Policy.					

No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
4.	Top managerial staff assume an important role in the oversight and execution of controls to mitigate fraud.					
5.	Performance goals for our institution are realistic and made known to all employees.					
6.	There is a straightforward and clear structure of duty, which separates between what, the Board can do, and what employees can do.					
7.	There are weak internal control systems in our firm					
8.	The employees have information regarding the internal control systems and thus able to alter the information					
9.	The camera surveillance in place are not monitored regularly by the management					
10.	Internal audit is an important exercise in determining fraud					
11.	The organization has built up, actualized and tried a procedure for oversight of fraud.					

In your opinion, are there any other corporate governance issues that influence occupational fraud risk in your firm? Explain

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**Section E: Staff Attitude and Occupational Fraud Risk**

This section has statements regarding the effect of staff attitude on occupational fraud risk in supermarket chains in Kenya.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1.	Employee's motive to commit fraud is high among jobs that pay less and those positions that have easy access to the company's assets.					
2.	There is a strong ethical program in place which guides the organization at all times in cases of theft					
3.	Job dissatisfaction from employees influences the individual behavior and hence influence the perceptual norms of the organization that conducts business					

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.	Written policies and procedures been developed and put in place governing transactions.					
5.	Job dissatisfaction from employees influence the individual behavior and hence create an opportunity for theft					

How else does staff attitude influence occupational fraud risk in supermarket chains in Kenya?

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**Section C: Employee Lifestyle and Occupational Fraud risk**

This section has statements regarding the effect of employee lifestyle on occupational fraud risk in supermarket chains in Kenya.

No.	Statement	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
	Statement	1	2	3	4	5
1	The employees in charge of stores and procurement liaises with suppliers to commit fraud by receiving goods short of quality and quantity specified in the invoice due to lifestyle habits					
2	Employee closeness with suppliers					

No.	Statement	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
	and customers can indicate the possibility of fraud by the staff					
3	Employees engage in fraudulent activities due to living beyond their means					
4	An overwhelming desire for personal gains drives employees in supermarkets to committing fraud					
5	The employees liaise with customers to carry out goods of higher prices without paying for them due to financial pressures					

Please indicate any how else employee lifestyle influence occupation fraud risk in your firm.

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**Section F: Fraud Risk Incidence**

This section has statements regarding the number of occupational fraud types, their frequency in the supermarkets.

No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5

No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
1	The amount involved in occupational fraud has been reducing in the last 5 years					
2	The number of occupational fraud has been reducing in the last 5 years					
3	Shrinkage and loss or theft of inventory has reduced over the 5 years					
4	The frequency of occupational fraud has been reducing in the last years					
5	Retail sector is highly vulnerable to risk of bribery and corruption due to high level of third party touch points in the Procurement and Supply Chain					

In your opinion what are the other factors or determinants of occupational fraud risk in your firm?

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### Appendix III: List of Supermarkets

1	A-One supermarkets
2	Chandarana
3	Cleanshelf
4	Eastmatt
5	Leens Supermarket
6	Maathai
7	MagunaAndu
8	Naivas Limited
9	Nakumatt
10	Quickmart
11	Safeway hypermarkets
12	Satellite supermarket
13	Selfridges
14	StageMatt
15	Suam Supermarket
16	Tumaini
17	Tuskys
18	Uchumi
19	Ukwala
20	Woolmatt Supermarkets
21	Yako Supermarket
22	Yatin Supermarket

**Source: Kenya Revenue Authority website (2017).**

## Appendix IV : Total Variance Explained

### i) Corporate Governance

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.841	44.005	44.005	4.389	39.904	39.904
2	1.85	16.818	60.822	1.412	12.84	52.745
3	0.973	8.85	69.672			
4	0.856	7.78	77.452			
5	0.531	4.83	82.282			
6	0.473	4.297	86.578			
7	0.403	3.666	90.244			
8	0.338	3.075	93.319			
9	0.304	2.767	96.087			
10	0.235	2.136	98.222			
11	0.196	1.778	100			

Extraction Method: Principal Axis Factoring.

### ii) Staff Attitude

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.241	44.815	44.815	1.589	31.787	31.787
2	1.357	27.131	71.945			
3	0.62	12.406	84.352			
4	0.41	8.207	92.559			
5	0.372	7.441	100			

Extraction Method: Principal Axis Factoring.

### iii) Employee Lifestyle

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.147	62.947	62.947	2.729	54.583	54.583
2	0.679	13.576	76.523			
3	0.632	12.637	89.16			
4	0.285	5.708	94.867			
5	0.257	5.133	100			

Extraction Method: Principal Axis Factoring.

iv) **Occupational Fraud Risk**

Factor	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.848	56.955	56.955	2.351	47.021	47.021
2	0.892	17.832	74.787			
3	0.547	10.935	85.722			
4	0.365	7.302	93.024			
5	0.349	6.976	100			

Extraction Method: Principal Axis Factoring.