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Factors influencing the type and occurrence of fraud in deposit taking SACCOs in Kenya

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FACTORS INFLUENCING THE TYPE AND OCCURRENCE OF FRAUD IN DEPOSIT TAKING SACCOS IN KENYA

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DECLARATION

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.

Irene Jebichii Koskei

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3rd June 2019

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DEDICATION

To mum and dad, for inspiring and supporting me through prayer and mentorship and not forgetting, taking me to school.

To my husband, Mike and son, Isaac, for their love, prayers, support and understanding during my time at Strathmore.

To caffeine and sugar, my companions through many days and evenings of research.

To the Almighty God for his infinite mercy, grace and unconditional love.

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ABSTRACT

Studies have established that a knowledge gap exists with regard to factors influencing fraud occurrence and the types of fraud in SACCOs in Kenya. The aim of the study was to establish the factors influencing the type and fraud occurrence in deposit taking SACCOs in Kenya. Semi-structured questionnaires were used to collect primary data from 176 licensed restricted and unrestricted SACCOs in Kenya. A response rate of 63% was achieved after 111 questionnaires were received. Descriptive statistics, factor analysis, independent T-Test and multiple linear regression were used for analysis. Factor analysis revealed that all factors (pressure, opportunity and rationalization) were significant and thus were retained for further analysis. The regression results indicated that opportunity and rationalization had a statistically significant influence on fraud occurrence, while pressure had no statistically significant influence on fraud occurrence. There was general consensus on perceptions of respondents of restricted and unrestricted licensed SACCOs in most of fraud influencing factors. These study also highlighted significant difference in perception among restricted and unrestricted SACCOs on specific factors related to pressure, opportunity and rationalization that were linked to fraud occurrence. It was also established that employee fraud, asset misappropriation and corruption were perceived to have a high prevalence rate, with a general consensus among all participants. The correlation analysis results revealed that all the fraud-related factors had a positive relationship with fraud occurrence though opportunity and rationalization exhibited a stronger positive significant relationship when compared to pressure. The major limitation of the study was the dependence on the fraud triangle theory in determining fraud influencing factors and the exclusive use of questionnaires to collect data. This study was also limited in geographical coverage, time and industry. It is recommended that future studies could employ secondary

data and use alternative theories to determine fraud influencing factors such as the cultural transmission theory and the anomie theory.

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ABBREVIATIONS AND ACRONYMS

ACFE	Association of Certified Fraud Examiners
CAQ	Center for Audit Quality
CIMA	Chartered Institute of Management Accountants
DTS	Deposit Taking Savings and Credit Cooperative Societies
IAASB	International Auditing and Assurance Standards Board
ISA	International Standards on Auditing
ISACA	Information System Audit & Control Association
KCC	Kenya Co-operative Creameries
KFA	Kenya Farmers Association
KPCU	Kenya Planters Co-operative Union
KPMG	Klynveld Peat Marwick Goedeler
PwC	Pricewaterhouse Coopers
SACCOs	Savings and Credit Co-operative Organization
SASRA	SACCOs Regulatory Authority
SPSS	Statistical Package for the Social Sciences Software
UN	United Nations

DEFINITION OF KEY TERMS

Fraud: According to Owolabi (2010) the Chamber English Dictionary describes fraud as an act of deliberate deception with an aim of acquiring some gain that is damaging to another party.

Occurrence: It is something that happens as a result of an act (Online Etymology Dictionary, 2010).

Pressure: Is what drives or motivates an individual to commit fraud (Ruankaew, 2016)

Rationalization: Is the justification of a fraud act to look like a morally acceptable action (Abdullahi, Mansor & Nuhu 2015; IAIS, 2011).

Opportunity: Refers to a weakness or a loophole in a given system whereby an individual has the ability or power to take advantage of the situation and make fraud possible (Rae & Subramanian, Rasha & Andrew, 2012).

Factor: Is something that aggressively contributes to the production of something (Merriam Webster, 2018).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Fraud has been defined as the intentional misrepresentation, concealment or omission of the truth for the purpose of deception and or manipulation to the financial detriment of an individual or organization (Idowu, 2009). According to ISA, fraud refers to an intentional act by one or more individuals among management, those charged with governance, employees or third parties involving the use of deception to obtain an unjust or illegal advantage. On the other hand, ISACA defines fraud as a deliberate misrepresentation which causes another person to suffer damages, usually monetary losses. These and many other definitions of fraud are based around the general theme of fraud being the use of deception to make personal gain for oneself, dishonesty and/or the creation of lossfor another (IAASB, 2009; ACFE 2016).

There have been numerous reports of fraud in corporate sector around the world and locally as well. Indeed, in a study by PwC examining global economic crimes, more than two thirds of 6,000 respondents reported to be victims of corporate fraud in the last 24months (PwC, 2016). The global trend of economic crimes has been steady, although some regions reported lower rates. However, reports from Africa, Western Europe and the Middle East showed significant increases in 2016 (PwC, 2016). The countries that experienced high and/or increased rates of economic crime in Africa were South Africa (69%, unchanged since 2014), followed by Kenya (61%, up 17% over 2014) and Zambia (61%, up 35% over 2014).These trends in fraud could be explained through the cultural lens as explained by (Bierstaker,2009; Watson, 2003; Albretch, et al. 2010). Broad cultural differences have been proposed to impact on attitudes and actions towards fraud. From an organisational perpective (DiMaggio et al 1983; Eisenhardt, 1988; Tolbert et al 1996; Scott, 2001) used

the institutional theories to explain why some organizations are more prone to fraud as opposed to other. These studies agreed that lack of support from the task environment, poor comprehension of regulations as well as execution and pratices of the regulation fuelled fraud in organisations. As per the global economic crimes report, economic crime in kenya has risen up from 61% in 2016 to 75% in 2018. PwC (2018) attributes this rise to a number of factors including the widening wealth inequality between the rich and the poor, increased connectivity brought about by the ICT revolution coupled with a poor understanding of the controls needed in a highly inter-connected environment, poor enforcement of existing regulations and an increase in awareness on fraud.

Accounting fraud or financial statement fraud involving accounts manipulation, fraudulent borrowings, and unauthorized transaction is reported to be the second most frequently reported type of fraud after asset misappropriation (Macdonald & Fitzgerald, 2014; PwC 2016;). IAS requires financial statements to be free of material misstatements in order to enable users of these statements to make decisions based on reliable information. Accounting fraud results in a dip in public confidence in accounting and auditing profession. Consequently, skeptics think there is need for governments to regulate the profession as opposed to self-regulation by accounting and auditing professional bodies. Arguments in favour of regulation typically depend on the existence of market failure (Pigou, 1938). It is argued that with regulation, benefits such as minimization of opportunistic behaviors of corporations, enforcement costs, and redundancies in information production amongst others will be realized. Nonetheless, other studies have shown that in as much as markets are imperfect, so is government. Demsetz (1969), argues against government regulation quoting the nirvana fallacy in which regulation is justified by comparing market failures against outcomes derived from imaginary governmental institution that are competent, benevolent and in possession of perfect information.

Despite all these arguments for and against regulation of the accounting and auditing profession, regulation has been adopted globally in the form of UK Fraud Act of 2006 in the UK, the Sarbanes-Oxley Act of 2002 in the US, and the Anti-Corruption and Economic Crimes Act of 2003 in Kenya.

Despite government regulation and professional body interventions, fraud is still prevalent in corporations, and audited financial statements have failed to live up to the expectations of users of financial statements. Findings of surveys conducted to estimate the true scale and cost of fraud to business and society have not fully ascertained the full extent of fraud (Olingo, 2014; Henry, 2015). However, these surveys agree that fraud is prevalent in organizations and is a costly problem. These studies also agree that fraud may be even increasing due to globalization, more competitive market and rapid developments in technology (PwC, 2018).

1.1.1 SACCOs in Kenya

SACCOs play a significant role in resource mobilization, agro-processing, and marketing of agricultural produce as well as in wealth creation, food security and creation of employment opportunities, hence they assist in alleviating poverty (Karanja, 2013).To date, there are over 150registered SACCOs country-wide with a membership of over 8 million and a domestic saving of over US$2.5 billion (MOCDM, 2015). SACCOs have employed over 300,000 people. The SACCO movement in Kenya is the largest in Africa and among the top ten globally. It contributes approximately 20% of the county's domestic savings (Mwangi, 2014). The SACCO movement comprises of deposit-taking SACCOs (DTS) regulated by the Sacco Societies Regulatory Authority (SASRA) of which 163 are licensed (see Appendix 2) and non-deposit taking SACCOs supervised by the Ministry of Industry, Trade, and Cooperatives.

The history of cooperatives in Kenya dates back to 1908 when the first cooperative society was established in Kenya, a Dairy Co-operative. The first co-operatives were predominantly marketing oriented. Key examples then were (KCC-1925), (KPCU-1923) and (KFA-1923). In 1931 the government formally got involved in Co-operative activities. This was through the enactment of the first Co-operative Ordinance to regulate the operations of co-operatives. Later in 1987, the government committed to enhancing the participation of Kenyans in the economic growth through co-operative societies. However, in 1997, government's role in SACCO affairs was removed completely through the Co-operative Societies Act, No. 12 of 1997. The result was a near collapse of the cooperative movement in Kenya.

This resulted in government pursuing vigorous legislative and institutional reforms to forestall the imminent collapse of the co-operative movement. This move was achieved through the enactment of the SACCO Societies' Act in 2008 and the establishment of SASRA as the regulator of deposit-taking SACCOs.

1.1.2 FRAUD IN SACCOS

PwC annual crime report of 2016 in Kenya, show that 52% of respondents have experienced fraud in the last two years. Although fraud has affected most industries, financial institutions have been the hardest hit (PwC, 2016). Financial institutions in Kenya include; Commercial Banks, Micro Finance Institutions, Insurance Companies, Pension Funds, and Deposit taking SACCOs. Cuevas & Fisher (2006) states that SACCOs fall under financial intermediaries. These institutions are member owned whose core business is to mobilize saving and enable members to access cheap loans easily. They have not been left behind by the fraud which has hit the corporate world.

Fraud cases in the SACCO subsector have been reported widely in the media. The reportage is mainly by the agencies and associations rather than individual SACCOs in the form of statistics. Studies have revealed that financial institutions shy away from actively reporting financial impropriety for fear of reputational loss and possible panic withdrawals (Alukwe, Ngugi, Ogollah & Orwa, 2015). Fraud is not formally tracked by SASRA and such the researcher has been unable to collect actual statistics on fraud and its trends in SACCOs. The problem of rising cases of fraud is expected to persist if players in the industry do not actively report incidences and seek solutions (KPMG, 2015). It is critical to embrace measures of fraud other than just presenting statistical reports on the prevalence of the vice. Actively reporting on fraud by regulators and organizations may realize several benefits in the long run including deterrence of future fraud schemes through persecution without exception. This will lead to minimization of future fraud incidences. As such this study seeks to build knowledge in this area of great importance to the Kenyan economy.

1.2 Statement of the Problem

Fraud in financial sector has been studied widely in the context of corporations and has generated immense interest from academic scholars (Persons, 1995; Beasley, 1996; Bell & Carcello, 2000; Kaminski et al., 2004). Within the African continent, studies have been done in West Africa (Akinyemi, 2012; Ekanayake, 2014; Onkagba, 2013; Kingsley, 2012). The unit of research in the majority of these studies have been in the commercial banking sector and the insurance industry. In Kenya, the Central Bank of Kenya (CBK, 2015) reported that the financial sector in Kenya is fraught with occurrences of fraud that have resulted in losses of money to the tune of billions of shillings. While the SACCO management authority in Kenya SASRA (2015) reports the SACCO sector has been affected by fraud.

The uniqueness of SACCOs compared to banks and insurance industry exposes them to unique challenges in regard to the risk of fraud occurrences. Some of the differences include

the fact that most financial institutions are profit motivated whereas SACCOs are not. Unlike other financial institutions, SACCO Boards of Directors are elected by members in a voluntary capacity with no salary but entitled to a minimal sitting allowance, if and when the SACCO can afford to do so. SACCOs also do not have customers, rather those who open accounts and deposit their money become part owners of the SACCO by virtue of their membership.

With regard to fraud in SACCOs in Kenya, studies have focused on fraud detection. Kamau, (2016) affirmed the usefulness of Benford Law in fraud detection. . Lari (2015) studied the power of financial ratios in detecting fraud (Lari, 2015). Secondary data was sought from 46 SACCOs and the findings supported use of ratio analysis in detecting fraud. Chelang'at, (2014) conducted a study on the effect of fraud on financial performance of SACCOs. Both secondary and primary data were analysed from a sample of 10 SACCOs. The regression analysis established that fraud contributed to financial performance of SACCOs. A knowledge gap however exists when it comes to identifying factors influencing fraud occurrence in SACCOs and the types of fraud in SACCOs. Auditing Standards have acknowledged that there is no one fraud risk factor more significant than another neither is it possible to conclude that all fraud risk factors are present in all organizations (ISA 240). Knowledge in this area is also necessitated by the ever growing incidences of fraud in the financial service industry and the severity of the effects of fraud.

1.3 Objectives of the Study

The general objective of this study is to establish the factors that influence fraud occurrence in deposit-taking SACCOs in Kenya.

1.3.2 Specific Objectives

The specific objectives of the study are;

i. To establish the influence of pressure factor on fraud occurrence in deposit taking SACCOs.

ii. To establish the influence of opportunity factor on fraud occurrence in deposit taking SACCOs.

iii. To establish the influence of rationalization factor on fraud occurrence in deposit taking SACCOs.

iv. To establish the types of fraud occurring in deposit taking SACCOs

1.4 Research Questions

i. Do pressure factors influence fraud occurrence?

ii. Do opportunity factors influence fraud occurrence?

iii. Do rationalization factors influence fraud occurrence?

iv. What types of fraud occur in deposit taking SACCOs?

1.5 Significance of the Study

The study will benefit the following:

1.5.1 SACCOs in Kenya

The SACCO sub-sector immensely contributes to the economy of Kenya. By establishing the factors influencing fraud occurrence, this study will provide valuable information especially to auditors, users of financial statements, regulators, amongst other users in the SACCOs sector.

1.5.2 Government of Kenya

The findings will also be of significance to the government and policy makers on how best to protect the SACCOs sub-sector through better understanding of fraud risk factors.

1.5.3 Audit Professionals and Accountants

The findings of this study will enable those in the accounting and auditing professions to determine the most common types of fraud that affect SACCOs and therefore be on the lookout for them. They will also be able to understand the factors that influence the occurrence of fraud and the types of fraud occurring in SACCOs.

1.5.4 Other Researchers

The study findings will also be of practical guidance to researchers and academicians by acting as a reference material and guidance for future research work on fraud risk factors in SACCOs in Kenya and globally.

1.5 Scope of the Study

The study focused on the factors influencing fraud occurrence in SACCOs in Kenya and more specifically, deposit-taking SACCOs. As such, its findings and recommendations will be limited to the SACCOs Industry in Kenya and may not be used to generalize the fraud occurrence in other sectors of the economy. The scope of factors influencing fraud was limited to opportunity, pressure and rationalization related factors. The scope of the research instrument for data collection was limited to semi-structured questionnaires hence the study solely focused on collecting primary data only since the study was anchored on perceptions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature related to the research problem is reviewed in this chapter. The section contains the theoretical underpinnings of the research, including a theoretical and an empirical review of previous studies as well as a conceptual framework depicting the relationship between the study variables. Finally based on the literature reviewed it presents how the variables of the study was operationalized.

2.2 Theoretical Review

Four theories guide this study: the fraud triangle theory, institutional theory, agency theory and stakeholder theory. These section describes the theory, the rationale for use of the theories in this study and its application in previous studies.

2.2.1 Fraud Triangle Theory

The fraud triangle theory was put forward by Cressey (1953). According to this theory, fraud usually occurs as a result of certain environmental, institutional or individual forces and opportunities. The fraud triangle theory is explained using perceived opportunity, perceived pressure, and rationalization (Kassem & Higson, 2012). Studies in corporate fraud have taken a similar approach and classified fraud risk factors based on the incentives or pressures to commit fraud; ability to rationalize the fraudulent action and opportunities to commit fraud (Lou & Wang, 2011).

Individuals are likely to resort to fraud and questionable activities if they are driven by an obsessive need to achieve goals regardless of the consequences. This is what pressure is, (Lister, 2007; Dorminey et al., 2012) The motivation to commit fraud is greed, (Dorminey

et al., 2012).Opportunities to commit fraud manifest themselves through weak internal controls including inadequate security, little fear of exposure or likelihood of detection.

The knowledge that the employee's position of confidence could be violated is general information whereas the abilities needed to defraud an organization are referred to as the technical skills; Dorminey et al, 2012). Both technical skills and general information give rise to perceived opportunity to commit fraud (Kaseem & Higson, 2012).

Vona (2008) suggested a direct relationship between opportunity and capability to conceal fraud. Identifying the opportunities that increase the incidence of fraud may increase the ability of auditors to detect fraud. Skousen & Wright (2006) indicated a positive relationship between pressure and high level of fraud occurrence, and also suggested that high opportunity amongst the individuals increase the level of fraud incidence in companies

There is evidence to show that evaluation of information about fraud occurrence is enhanced when evaluated in the context of the fraud triangle (Turner et al. 2003; Pan et al., 2012, Wanjohi, 2014). Adoption of the fraud triangle theory by accounting professional bodies through ISA 240 and SAS 99, has enhanced the acceptance of the fraud triangle theory in audit and accounting practices. The fraud triangle theory is used as a guide in accounting practice and does not cover the individual factors and characteristics that facilitate fraud occurrence and firm characteristics and business environments that contribute to fraud occurrence in the financial sectors and specifically SACCOs.

This theory has been used to explain support for the use of fraud triangle by mentioning that three conditions are present when fraudulent activities take place (Lou & Wang, 2011). First, management or other employees work under pressure. The excess pressure provides them a reason to commit fraud. Second, opportunities or work circumstancesexist to provide an avenue for a fraud to take place. Third, those involved can rationalize committing a fraudulent act.

Rationalization of fraud has been explained within the context of attitude, character, or set of ethical values that allow individuals to intentionally commit fraud. Nontheless, it is noted that even otherwise honest people can intentionally commit a crime if they are exposed to sufficient pressures. The probability of individuals rationalizing fraud increases as pressure increases.

However, the use of the fraud triangle has been found to have several limitations according to various studies. Realistically, fraud in organizations cannot occur in a vacuum. Individuals work within the wider institutional and societal environments. Extending the literature on the fraud triangle to include social and economic dimensions is worth of scholarly attention. Fraud occurrence has been linked to societal pressures rather than individual deviance (Braithwaite, 1985; Coleman, 1985, 1987; Poveda, 1994; Free et al., 2007; Donegan et al., 2008). These studies have shown that the physical environment as well as institutions as well as the wider societal system impacts on morality of individuals (Coleman, 1987).

Scholars argue that the fraud triangle has been used as it represents the interest of authorities in fraud examination as well as accounting and audit professional bodies (Donegan et al., 2008; Cooper et al., 2013; Morales et al., 2014). This theory gives a psychological explanation as given by Cressey at the expense of socio-political explanations of fraud and fraud risks (Morales et al., 2014). As such, the institutional and social forces that explain fraud occurrence are not given adequate scholarly attention. This theory opines that fraud can be mitigated through increased monitoring of individuals and tasks. This makes the role of the accountant and auditor necessary and valuable thereby legitimizing the professions of the auditor, accountant and fraud examiner.

In summary evidence shows that employees are driven toward acts of fraud as a result of perceptions of unfair remuneration, excess workload, competing with colleagues already

participating in fraud, value systems glorifying fraud, weak internal controls, greed, revenge, justifications such as that the funds shall be refunded, no harm is being done, and that it is only a temporary alternative.

The theory was relevant to this study because factors affecting fraud occurrence were based on the three basic components of fraud triangle i.e. pressure, opportunity and rationalization. For instance, pressure related factors which were assessed by this study were rewards based on meeting targets, statutory requirements and high level of competition among other factors. Opportunity related factors that were assessed comprised of ineffective accounting & information systems and inadequate monitoring of internal controls among other factors. For rationalization the study assessed if known history of violating laws resulted to fraud occurrence as one of the various factors.

2.2.2 Institutional Theory

Institutional theory refers to the processes by which organizational structures and systems comprising of rules, routines and norms are established as the principal guidelines of social behavior (Scott, 2004). Tolbert and Zucker (1996) argued that individuals would accept and follow social norms unhesitatingly if it was consistent with their individual interest. For example, corrupt environment would influence people to behave dishonestly by rationalizing it as normal (Sudibyo & Jianfu, 2015).

Research has shown that institutional systems and structures play a significant role in influencing fraud occurrence (Sikka, 2010a, 2010b; Gabbioneta, et al., 2013; Neu, et al., 2013; Davis, et al., 2013). These studies emphasized how institutional arrangements can contribute to fraud occurrence by first encouraging its occurrence and also by providing opportunities for its concealment.

Institutional theory posits that fraud in organizations is influenced by a lack of support from the task environment, poor understanding and implementation of work related policies and regulations. In other words, fraud occurs as a result of individuals accepting it as a norm if

they function within a corrupt environment. Kingsley (2012) reported that institutional factors that result in fraud are associated with weak internal control systems, poor human resource policies and practices, inadequate compensation schemes, disregard of Know Your Customer rule, ineffective management of databases and information technology, violation of law by employees without any penalty, SACCOs reluctance to report fraud due to reputational risk, and inadequate communication infrastructure and systems.

Social factors have often been linked to the fraud triangle theory exploiting all the facets of pressure opportunity and rationalization. They include greed, slow legal process, economic inequalities in society, job insecurity, societal expectations, and financial pressures on individuals. Maintaining competitiveness in the market also contribute to SACCOs engaging in fraud to secure expected liquidity and profitability levels (Kingsley, 2012).

Luo (2005) evidenced that according to the institutional theory, the work environment and corporate environment tend to influence fraudulent actions. The level of openness and straight-forwardness also known as transparency is crucial in comprehending the applicable regulations (Sudibyo & Jianfu, 2015). Luo (2005) established that vague institutional policies provide opportunities for individuals to participate in fraud and take advantage of the weaknesses of these rules. Besides that, complexity of policies and regulations afford individuals an opportunity to rationalize the policies and regulations as difficult to comprehend and subsequently it prompts individuals to commit fraudulent practices (Luo, 2005; Pillay & Kluvers, 2014).

This theory was relevant to this study because organizational culture which is part of the institutional environment was directly linked to rationalization, also the work environment within in institution can provide opportunities and pressures to commit fraud. Since a fraud environment leads to people to commit fraud because it is justified as a morally acceptable action (Abdullahi, Mansor & Nuhu 2015; IAIS, 2011).This theory also acknowledges the

uniqueness of every organization and institution and as such observes that rationalization as defined under the fraud triangle theory cannot be generalized to apply to every institution (Albrecht et al., 2010; Jones, 2010; Murphy et al., 2011).

2.2.3 Agency Theory

The agency theory as presented by Jensen & Merckling, (1976) describes a relationship between agents acting on behalf of a principal. Agency theory discusses the problems arising in the firm as a result of separation of ownership makes suggestions toward the reduction of this problem.The agency theory pre-supposes a fundamental conflict between agent and principal occasioned by self-interest. This occurs when the agent pursues personal interests by exploiting their fiduciary and trust duties to the principal while ignoring their responsibilities to the principal.

The agency theory suggests synergy and alignment of objectives of both management and its shareholders in order to avert the agency problem. There is a need for collaboration to exist between the management, the subordinates and all other stakeholders in order to achieve an organization's objectives (Henry, 2015).

To align the competing interest of the agent and the principal incentive schemes and other schemes have been suggested. It is argued that the agent will conduct faithfully his duty to shareholders because it maximizes his utility and not because of any moral sense of service (Donaldson & Davis, 1991). Another solution to the agency problem is related to control. It is argued that the board of directors must control top management. As such, the theory opines that the CEO and the chairman of the board of directors need to be different persons. If this role is not performed by different individuals, then shareholders may lose the ability to monitor management behavior, hence sacrificing their ownership power. Thiswill, in turn, result in opportunistic behavior by the agent evidenced by shirking of responsibilities

and indulging in excessive pre-requisites at the expense of shareholder interest (Donaldson & Davis, 1991).

An efficient market requires symmetry of information to allow efficient transfer of resources to deficit areas. This efficiency guarantees optimal returns to potential investors if the information being relied upon is accurate and reliable. The demand for true and correct information by shareholders and other third parties forces businesses to supply information in the form of financial statements exists. However, firms may not always present accurate and reliable information. This intentional misrepresentation has been associated with conflict of interests between agent and principal culminating in fraud.

The choice of the agency theory in this study is based on its assumptions that man and by extension managers are motivated by self-interest. This is because the principal-agent relationship entails the transfer of duty and trust to the agent while presuming that the agent is opportunistic and will seek to address his/her personal interests including executive fraud (Choo & Too, 2012). Hence conflicting with the interests of the principal, who seeks to obtain wealth maximization (Choo & Too, 2012).

As such the theory assumed that if left to their own devises managers will be drawn toward committing fraud for the purpose of personal gain. The factors that were assessed in line with this theory were ineffective audit committee, high turnover of CEOs and management holding significant financial interest in the organization among others. The study sought to establish if the factors resulted to fraud so that the theoretical model's argument (that the agents are opportunistic people who would seek to satisfy their personal needs rather than that of their principals) can be upheld.

2.2.4. Stewardship Theory

The stewardship theory was developed by Donaldson and Davis (1991 & 1993) to give perspective and understanding on the relationships between ownership and management of the firm. Stewardship theory states that managers, when left independently will provide responsible stewardship to the firm in as long as they have been adequately empowered. This theory contradicts agency theory, in which self-interest on the part of the agent is predicted to occur (Barney & Hesterly, 2015). The argument specifies precise mechanisms which reduce agency loss including pegging executive compensation to performance, or offering co-ownership incentives in a bid motivate them for better performance (Donaldson & Davis, 1991).

New thinking about top management has been influenced by alternative models of man (Davis, Schoorman, & Donaldson, 1997). Economic approaches to governance such as organization theory tend to presume some form of home-economics, which depict subordinates as opportunistic, individualistic and self-serving. Nevertheless, sociological and emotional approaches to governance contained in the stewardship theory reflect management and employees as trustworthy and pro-organizational. Unlike the agency theory which argues that interests of the shareholders require protection by separation of incumbency of responsibilities of panel chair and CEO, stewardship theory recommends the opposite. Stewardship theory, argues that shareholder pursuits are maximized by empowerment and distributed incumbency of these roles (Donaldson & Davis, 1991).

Stewardship theory pre-supposes that performance variations may arise from empowerment changes. As such it reccommends empowering managers as opposed to controlling them. The theory makes the assumption that the stewards are trustworthy and are not in pursuit of self- interest (Davis et al., 1997). As such, the CEO duality role is motivator for performance and not a control violation.

The theory was relevant to this study because it sought to establish if; non-financial management's excessive participation, high turnover of CEOs or board of directors, significant financial interest by management and directors and excessive interest by management in maintaining or increasing the SACCOs earning trends does not lead to fraud occurrence so that the proposition of the Stewardship theory can be upheld. Conversely, the study sought to establish if these factors resulted to fraud occurrence so that it can disapprove the argument of Stewardship theory that when managers are left independently they will indeed act as responsible stewards of the firm.

2.3Empirical Review

This section presents a synthesis of the empirical reviews based on studies conducted internationally and locally and the various existing literature in line with the specific objectives of the study. Sub-section 2.3.1 presents the empirical review and existing literature on the first objective of the study that sought to establish the factors influencing fraud occurrence in deposit taking SACCOs in Kenya. The literature revolved around three main factors (pressure, opportunity and rationalization) backed by fraud triangle theory that the study utilized. On the other hand, sub-section 2.3.2 presents the empirical review and existing literature in line with the second objective of the study that sought to establish the types of fraud occurring in deposit taking SACCOs in Kenya. The literature identified four major types of fraud, namely; accounting fraud, asset misappropriation, corruption and employee fraud.

2.3.1 Factors Influencing Fraud Occurrence

Many studies on fraud occurrence have been done focusing on the fraud triangle as the primary theory informing the research (Abdullahi, Mansor & Nuhu, 2015; Wilks et al, 2004;Skousen et al., 2006; Ruankaew, 2016; Lister, 2007; Vona, 2008; Schuchter, 2013). All these studies agreed on the necessity of existence of the three conditions of opportunity,

pressure and rationalization for fraud to take place. These factors as identified by the fraud triangle theory may influence fraud under differing conditions and environments (Pan el al. 2011).

2.3.1.1 Pressure

The fraud triangle theory as put forward by Cressey in 1953 hypothesized that a non-shareable financial pressure is key in influencing fraud occurrence. Financial strain that is not communicated provides sufficient incentive to break the law in order to resolve the problem. Sources of pressure to commit fraud come from different places. Nonetheless, Wilson (2014) noted that greed is the greatest source of pressure. This emanates from an individuals immediate need for assets and reputation (Cressey, 1953). Hillison et al. (2015) state that 95% of all fraud cases involve needs caused by financial difficulties or vice related activities.

Several studies have classified pressure as either financial or non-financial (PwC, 2003; Fitzsimons, 2009; Albrecht et al., 2012). Non-financial pressures have been linked to either;(1) pressures associated with work (Hollinger et. al, 1983; Holton, 2009; Peterson & Gibson, 2003; Bartlett et al., 2004); (2) addiction related pressures (Sakurai& Smith, 2003; Howe &Malgwi, 2006; Kelly & Hartley, 2010); and (3) lifestyle related pressures (Rezaee, 2005; Dellaportas, 2013; Neu, Everett &Rahaman, 2013; Hillison et al., 2015).

Economic hardship on the part of the organization and individuals facilitate fraud occurrence. In response to economic hardship, many firms cut back on activities and employing resources that may avert fraud occurrence. These including reducing number of employees in an effort to cut back on expenditure including remuneration and allowances. Such actions provide opportunities by reducing effectiveness of internal controls. This is

evidenced by ACFE (2015) which established that the variables of fraud and the organization's economic strength exhibited an inverse relationship

Monetary success, fuels fraud occurrence by imposing pressure on individuals to meet goals and targets set by third parties using all available means including fraud (Choo& Tan, 2007: 209). Financial pressures can also influence individuals to commit fraud (Dellaportas, 2013: 30). Financial pressures may be propelled by failure by a firm to meet third party expectations (Sikka et al.,, 2005; Dorn, 2010; Sikka, 2010; Power, 2013). Financial pressure may also arises from a firm's desire to maintain its position within a market or industry (Albrecht et al., 2004; Sikka et. al., 2005). In this scenario, incentives are given to management to motivate them to maintain or improve the firm's overall performance (Brennan et al., 2007). The need to maintain investor confidence as well as monetary incentives, can provide sufficient motivation to commit fraud (Mardjono, 2005). All this is done to align the interest of the agent and the principal and is in agreement with the agency theory and the CLASS model.

Inequalities in the workplace coupled with workers' dissatisfaction contribute immensely to occurrence of fraud incidences (Hollinger & Clark 1983; AIC & PwC, 2003). Hollinger and Clark (1983), Bartlett et. al., (2004)) opined that employees' dissatisfaction and unfair employment practices relating to job applications, promotions, remunerations and appreciations were a predictor of fraud occurrence. In such circumstances fraud is rationalized and seen as a form of revenge against their employer (Baucus, 1994). Furthermore, the pressure for affluent lifestyle similar to their colleagues gives further incentive to commit fraud (Dellaportas, 2013; Neu et al., 2013). This category of pressure may not always culminate in fraud occurrence, rather its occurrence varies with individual circumstance (Duffield et al., 2001;Peterson et al., 2003; Morales et al., 2014).

2.3.1.2 Opportunity

Opportunities to commit fraud are studied in the context of the strength of the internal control systems of a business that an employee can utilize to commit fraud (Wilson, 2014). Hillison et al. (2015) found that opportunities to commit fraud arise when absolute trust gained by employee is exploited given the existence of weak or non existent internal controls. As such a perceived opportunity arises when those in positions of trust misuse the position in an effort satisfy individual financial pressure (Cressey, 1953: 30). These employees will then use their positions of trust to conceal fraud in attempt to avoid detection.

Accounting scholars have examined opportunity through the lens of internal controls which, according to KPMG (KPMG, 2014, 2016), has contributed immensely to fraud occurrence (Albrecht & Albrecht, 2004; Alleyne & Howard, 2005; Rae & Subramanian, 2008; Fleak, Harrison, & Turner, 2010; Kelly & Hartley, 2010; Strand Norman, Rose & Rose, 2010: Dellaportas, 2013). Weakened internal controls characterized by individuals with superior technical skills and immense knowledge of an organisation allow individuals to commit and conceal fraud (Coenen, 2008; 12). Studies have shown an inverse relationship between strength of internal controls and fraud occurrence (Rezaee, 2005; Free, Macintosh & Stein, 2007; Neu, Everett &Rahaman, 2013; Power, 2013). Firms with weak internal controls expose themselves to the risk fraud occurrence (Ohando, 2015; Abdullahi, Mansor & Nuhu 2015; CIMA, 2015).

Opportunity for fraud exist when internal controls fail or are weakened. They include poor human resource policies and practices, poor communication on firms policies and regulations as well as the consequences of violating them, high employee turnover, poor operation policies and guidelines, and poor accounting policies and practices.

Other scholars have taken a criminology perspective when explaining opportunity and fraud occurrence (Colvin, Cullen et. al, 2002; Donegan et al., 2008; Benson et al.,, 2009). Studies have linked coercion and social support as key for illegalities to occur (Colvin et al., 2002). Social support may be sought from both legitimate sources, and illegitimate sources. Furthermore, when social support is not forthcoming, individuals may manipulate others so as to gain social support. Donegan et al., (2008) examined opportunity through the lens of sub-cultural deviance. Findings of this study showed that fraud emanates from a sub-culture that either encourages or discourages fraudulent actions through its value system.

Vona (2008) suggested existence of a relationship between opportunity and ability to conceal fraud. It is noted that though strong internal control systems limit opportunity for fraud, ability to override controls gained through trust increase the likelihood of fraud occurrence (Hillison et al. 2015). This suggests that management are better positioned to commit and conceal fraud given their ability to over-ride internal controls and systems.

2.3.1.3 Rationalization

Rationalization is an attempt to justify wrong doing arising from social misconduct of an individual (Dellaportas, 2013: 32). Rationalization has been discussed and understood from both a social psychology and criminology point of view. Criminologists implied that the neutralization techniques are used to shield individuals from their internal value system in an attempt to exonerate them of wrong doing (Sykes & Matza, 1970: 669). Studies have also shown that neutralization has also been used to sanitize the conscience of those engaging in fraud (Murphy & Dacin, 2011).

Murphy & Dacin (2011) established three psychological rationalizations of fraud: (1) lack of awareness, (2) intuition coupled with rationalization, and (3) reasoning – the perceived benefits outweigh the costs. This study revealed consistency with that of Ashforth and

Anand (2003), Lehman et al., (2005), den Nieuwenboer et al., (2008), Rae et al., (2008), and Ball (2009) on how corporate executives rationalize fraud as a necessary evil.

Rationalization involves reconciling actions with commonly accepted morals and values (Dorminey et al., 2010: 19). This allows individuals to align their actions with their value system (Ashforth & Anand, 2003; Albrecht, 2003; Dedoulis, 2006; Cohen et al., 2010; Neu, Everett, &Rahaman, 2013; Morales et al., 2014). Rationalization provides a cognitive defense mechanisms to justify illegal behaviour as acceptable and consistent with the personal code of ethics of an individual.

Rationalization involves justification of fraud by shifting attitudes, thoughts and actions to align with an individual's values. Common rationalizations of fraud include justifications that the amounts stolen are small relative to the size of the firm, fraud has been well concealed, unfair remuneration amongst others (Clark & Hollinger, 2013). Junior employees often engage in fraud by justifying their actions to being similar to that of their superiors. In summary Clark and Hollinger (2013) argued that most individuals commit fraud due to the consistency in the justification and the personal code of ethics.

Hillison et al. (2015) stated that personal integrity played an important role in determining whether an individual would commit fraud or not. Individuals may shy away from committing fraud if they have a personal attachment to an entity or fear reputational risk to their character if caught. CIMA (2015) further notes that individuals may rationalize the act of fraud since they believe and/or perceive that the victim is well cushioned or protected from the impact arising from the fraud or because the victim deserves it. Rationalization is personal and more difficult to combat (CIMA, 2015).

2.3.2 Types of Fraud Occurrence

The ACFE classified fraud into categories namely: (1) fraudulent financial statements, (2) asset misappropriation and (3) corruption. Fraudulent financial statements can be defined as deliberate misstatements including the omissions of significant amounts or disclosures in financial statements with an intention to deceive users of financial statement (ACFE, 2010). Asset misappropriation encompasses the theft of a firm's resources and can be perpetrated in numerous ways, including stealing of assets, manipulation of receipts, or payment of fictitious expenses (ACFE, 2010). Corruption fraud is whereby an individual uses their position and influence in an organization in a manner that violates their duties to the firm with an aim of procuring some benefits for themselves or someone else (ACFE, 2010). Other scholars have categorized fraud according to who commits the fraud. These include employee fraud, management fraud, customer fraud and …

The Global Economic Crime Survey conducted by PwC (2011) established that accounting fraud, assets misappropriation and corruption were the most perpetrated fraudulent practices in public sector entities. Moreover Ernest and Young (2018) established that 38% of the participants stated that corruption practices occurrs widely in business entities in their countries globally. On the other hand, PwC (2018) established that asset misappropriation fraud was the most commonly perpetrated fraud through all the industries that encompassed consumer, professional, financial services, technology and industrial products industries when compared to corruption fraud.Furthermore, a survey conducted by KPMG Forensic (2004) established that the major perpetrators of fraud were found to be employees, and almost 67% of such fraud were perpetrated by those at management level.

In regard to accounting fraud, (Badawi, 2005) argued that virtually all cases of foreign corporate accounting frauds were perpetrated by firms that conducts their businesses in more than one country. A survey conducted by ACFE (2008) established that accounting

fraud came in first in terms of fraud losses and placed in the third position in terms of number of fraud cases. Conversely, asset misappropriation was placed in the first position in terms of the number of fraud cases and ranked third in respect to fraud losses ACFE (2008). As to who the fraud perpetrators are, 40% of the reported fraud incidences were executed by non-managerial employees, 37 % by managers and 23% executives or owners (ACFE, 2008).

2.4Summary of Literature Review and Research Gap

The chapter discussed the existing theories relevant to this study that included fraud triangle theory, institutional theory, agency theory and stewardship theory. The chapter also revealed and discussed about the studies done and existing literature related to the objectives of the study. From the studies reviewed in the empirical review research (Abdullahi, Mansor & Nuhu, 2015; ACFE, 2015; Clark & Hollinger, 2013; Kingsley, 2012;Wilson, 2014; Wilks et al, 2004;Skousen et al., 2006; Ruankaew, 2016; Lister, 2007; Vona, 2008; Schuchter, 2013) there has been a limited research conducted to establish the factors influencing fraud occurrence in deposit-taking SACCOs. Having a reputation for integrity is crucial to safeguarding market confidence and public trust. Unfortunately, fraud and misconduct can seriously undermine such efforts, exposing an organization to legal, regulatory, or reputational damage (KPMG,).

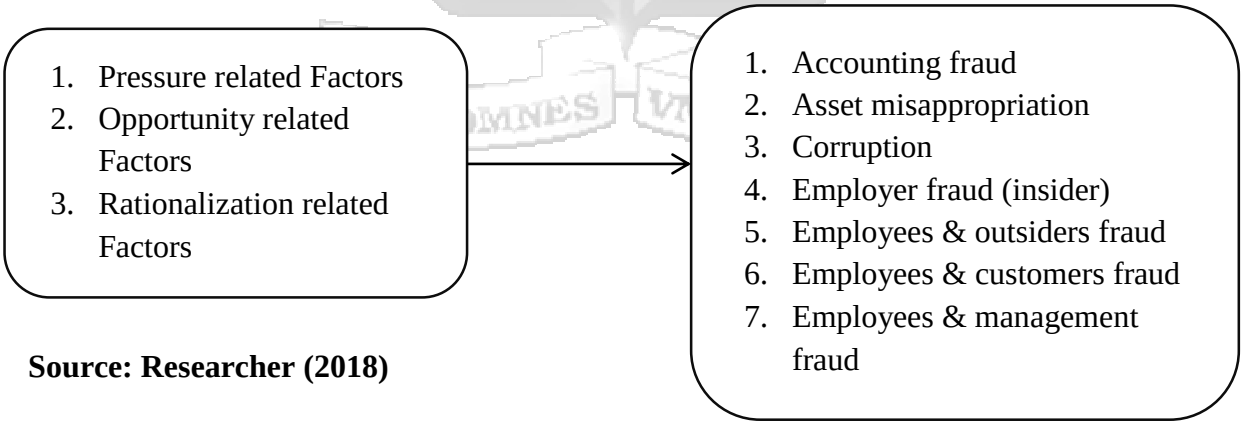
Reputation-damaging events including fraud can substantially (negatively) impact stakeholder behavior and (thus) financial performance (Gatzert, 2015). This may explain why organizations and their regulators may shy away from reporting fraud occurrence. Other than media reportage on the occurrence of fraud, there has been scarce information from regulators and organizations themselves on the occurrence of fraud let alone the type of fraud occurring in organizations. This study sought to bridge the gap by conducting the study in deposit-taking SACCOs in Kenya.

Furthermore, from the studies reviewed (ACFE, 2008; Badawi, 2008; Ernest & Young, 2018; KPMG Forensic, 2004; PwC, 2011; PwC, 2018) there has been limited research conducted to establish the types of fraud occurring in the deposit-taking SACCOs in Kenya. Consequently, the study sought to address the literature deficiency. Since it is not only important to know the factors that drive people to commit fraud in Kenyan deposit-taking SACCOs but it is also important to understand the type of frauds that people are motivated to commit in Kenyan deposit-taking SACCOs.

2.5 Conceptual Framework

The conceptual framework in Figure 2.1 below illustrates the relationship between factors affecting fraud occurrence (Independent variable) and types of fraud occurring (dependent variable) in deposit-taking SACCOs in Kenya.

Figure 2.1: Relationship between Factors Influencing Fraud Occurrence and Types of Fraud Occurring in Deposit-taking SACCOs in Kenya



Source: Researcher (2018)

2.6 Operationalization of Variables

The operationalization of the variables (illustrated in the conceptual framework in Figure 2.1 in the preceding page) and how they were measured is summarized in table 2.1 below.

Table 2.1: Operationalization of Variables

Independent Variable	Construct	Operational Construct	Measurement	Supporting Literature	Supporting Theory
Pressure	Pressure Related Factors (15 items in the questionnaire in Appendix I)	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	Abdullahi, Mansor and Nuhu (2015); ACFE (2015); Clark and Hollinger(2013); Kingsley (2012); Wilson (2014); Wilks et al (2004); Skousen et al., (2006); Ruankaew(2016); Lister(2007); Vona(2008); Schuchter(2013)	Fraud Triangle Theory; Agency Theory; Stewardship Theory
Opportunity	Opportunity Related Factors (12 items in the questionnaire in Appendix I)	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	Abdullahi, Mansor and Nuhu (2015); ACFE (2015); Clark and Hollinger(2013); Kingsley (2012); Wilson (2014); Wilks et al (2004); Skousen et al., (2006); Ruankaew(2016); Lister(2007); Vona(2008); Schuchter(2013)	Fraud Triangle Theory
Rationalization	Rationalization Related Factors (12 items in the questionnaire in Appendix I)	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	Abdullahi, Mansor and Nuhu (2015); ACFE (2015); Clark and Hollinger(2013); Kingsley (2012); Wilson (2014); Wilks et al (2004); Skousen et al., (2006); Ruankaew(2016); Lister(2007); Vona(2008); Schuchter(2013)	Fraud Triangle Theory; Institutional Theory
Dependent Variable Fraud Occurrence	Accounting Fraud	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5;	ACFE (2008); Ernest and Young(2018); KPMG Forensic	Agency Theory; Stewardship Theory

			High=4;Low=3; Very Low=2; None=1)	(2004); PwC (2011); PwC(2018)	
	Asset Misappropriation	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	ACFE (2008); Ernest and Young(2018); KPMG Forensic (2004); PwC (2011); PwC(2018)	Agency Theory; Stewardship Theory
	Corruption	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	ACFE (2008); Ernest and Young(2018); KPMG Forensic (2004); PwC (2011); PwC(2018)	Institutional Theory
	Employer fraud (insider)	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	ACFE (2008); Ernest and Young (2018); KPMG Forensic (2004); PwC (2011); PwC(2018)	Institutional Theory
	Employees & Outsiders fraud	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	Badawi (2008)	Agency Theory; Stewardship Theory
	Employees & Customers fraud	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	Badawi (2008)	Agency Theory; Stewardship Theory
	Employees & Management fraud	Level of highness or lowness of occurrence	A 5-point Likert scale was employed (Very high=5; High=4;Low=3; Very Low=2; None=1)	Badawi (2008)	Agency Theory; Stewardship Theory

Source: Researcher (2018)

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodological approaches that this study employed as illustrated in the subsequent sections below while addressing its set objectives in regard to the research philosophy, research design, sample and sampling techniques, research instruments and data analysis techniques.

3.2 Research Philosophy

The research investigation employed a positivist paradigm approach. Since based on the epistemological assumption the study used a scientific approach by generating numeric measures to produce acceptable knowledge (Creswell, 2009). In simple terms, the study retrieved primary data from the respondents by using questionnaires. Numerical figures were generated based on the coded values of the Likert scale for statistical analysis and the results were used for interpretation and recommendations to produce knowledge.

Ontologically the reality was external and autonomous from the social actors and their interpretation of it (Saunders, Lewis & Thornhill, 2009; Neuman, 2011). To be clear enough, the knowledge that was generated from the study was based on the general views of the respondents on that particular subject, which was consequently considered as an objective reality.

3.3 Research Design

Research design can be defined as the structure of the study and the blueprint that outlines how the research objectives will be addressed or the research questions will be answered (Kombo & Trump, 2006). The study employed a descriptive design methodology. This type of design is focused on establishing the what, where and how of a particular phenomenon

(Cooper & Schindler, 2003). Its main purpose is to describe the state of affairs as it exists currently (Kothari, 2004). The use of descriptive study approach used to discover the factors influencing fraud occurrence in deposit-taking SACCOs based on the current trend.

The descriptive design was based on a survey research methodological approach because it is utilized to quantitatively describe the precise aspects of a given population (Kraemer, 1991). It utilizes a chosen portion of the population from which the findings can later be generalized to represent the views of the population (Kraemer, 1991).

The study also employed an explanatory research design. This design allows for better understanding of a subject by determining how and why things work. (Kothari, 2004).

The study was carried out on a field-setting environment where the day to day activities ensued with minimum interference from the research investigator. Moreover, the study's nature of inquiry was non-experimental since the researcher did not manipulate the variables unlike the quasi-experimental or experimental methodologies of study. Additionally, the study employed a cross-sectional design approach in regard to the time horizon because data was gathered at one point in time.

3.4 Population of the Study

A population refers to an entire pool from which a statistical sample is drawn and has some common observable characteristics (Saunders, 2011). The study population consisted of the SACCOs that have been granted licenses (restricted and unrestricted) for the year 2018.There are one hundred and seventy six (176) deposit taking SACCOs in Kenya which have been registered by SASRA (SASRA, 2018). The unit of analysis was the SACCOs. Bhattachejee (2012) contended that the unit of analysis can be referred to elements that have been targeted for a research inquiry. Individuals can be utilized to embody an organization as a unit of analysis sincere they signify the organization's decisions (Bhattachejee, 2012).

Consequently an employee in senior management preferably in finance or Chief Executive Officer of the SACCO represented the respective organization as its unit of analysis.

3.5 Sample and Sampling Techniques

A sample frame is a source list containing names of all items where a sample is drawn from (Kothari, 2004). Denscombe (2014) noted that a sampling frame should be made up of a comprehensively updated inventory of all the study population. It should give a clear definition of the categories of elements availed to the researcher so that he/she can pick an appropriate representation of the target population (Denscombe, 2014). The sampling frame for this study was the SASRA (2018) that contained the list of all licensed and unlicensed SACCOs in Kenya.

Sampling technique is vital when it comes to solving problems and one sampling technique may not be suitable for all problems. A researcher must apply a suitable sampling technique for his or her studies so as to get an accurate representation (Saunders, 2011).

The study used census method whereby all elements in the population were included in the study. The elements in the population comprised of all the licensed SACCOs in Kenya. The aggregate number of the SACCOs registered by SASRA is 176. The larger the sample size used by the researcher the less the likelihood of errors existing hence the higher the levels of accuracy in the study. Census method was considered appropriate given the probability of low response rate that is anticipated given the timelines of the study and the location of the respondents.

3.6 Data Collection Methods

The research investigation used semi-structured questionnaires as an appropriate research instrument to collect primary data from the participants. Primary data was considered to be suitable for this study since it is solely anchored on perceptions. Moreover, primary data is better when compared to secondary data because it is more reliable since data is obtained

originally from the research field (Akrani, 2014). Additionally, secondary sources were not considered since they are prone to inaccuracies, errors or can be even outdated (Akrani, 2014).

The study used questionnaires since it covers a large sample of respondents when compared to interviews and focused group discussions (Peil, Rimmer, 1995). Moreover, it is an economical and quicker technique of collecting data when compared to other research instruments (Kothari, 2004). Additionally, it offers the best responses when the privacy of the respondents is guaranteed (Peil, Rimmer, 1995).

The questionnaire was divided into three parts. Section A was used to collect general information about the respondents. It solicited for the years of operation of the SACCO, and implored for the gender, age, work experience and years operation of the respondent representing the SACCO. Part B contained questions that were used to address the first objective of the study which sought to determine the factors that influence fraud occurrence in deposit-taking SACCOs.

It contained three parts with statements based on fraud related factors linked to pressure, opportunity and rationalization respectively. A 5-point Likert scale ("Very High = 5"; " High = 4"; "Low = 3"; "Very Low = 2"; "None = 1") was used to assess the responses of the statements. A Likert scale was employed in the questionnaire since it assists in transforming qualitative responses into quantitative values that can statistically be analyzed (Mugenda & Mugenda 2003; Zikmund et al. 2010).

Part C contained questions that were used to address the second objective of the study which sought to determine the types of fraud occurring in deposit taking SACCOs. It contained seven statements representing the types of fraud identified in fraud literature. A 5-point

Likert scale ("Very High = 5"; " High = 4"; "Low = 3"; "Very Low = 2"; "None = 1") was used to assess the responses of the statements.

3.7 Research Quality

The reliability and internal consistency was assessed by using the Cronbach's Alpha. The test is used to confirm if questionnaires with multiple Likert scale questions are reliable. IBM SPSS Statistics software version 20 was utilized to calculate the Cronbach's Alpha. George and Mallery (2003) recommended a value of 0.7 or greater as acceptable for the reliability test (Waithera, 2015). This value was the benchmark figure used to determine the internal consistency of the items in the questionnaire.

A pilot study was conducted to obtain data for internal consistency evaluation. The study was conducted on 17 participants drawn from the 17 Deposit Taking SACCOs in Kenya, with each respondent representing a SACCO. The findings of the analysis established that pressure, opportunity and rationalization factors tested in Section B recorded Cronbach's Alpha values of 0.795, 0.922 and 0.946 respectively. Furthermore, statements representing types of fraud occurring in deposit-taking SACCOs recorded a Cronbach Alpha value of 0.856. This meant that all the items tested in the Likert scale from the questionnaire possessed great internal consistency and the results can be relied on confidently. The results of the reliability test were presented in Table 3.2 below.

Table 3.1: Cronbach's Alpha Test Results

Reliability Test for the Questionnaire		
SECTION B	**Cronbach's Alpha**	**No. of Items**
Pressure	0.795	15
Opportunity	0.922	12
Rationalization	0.946	12
SECTION C	**Cronbach's Alpha**	**No. of Items**
Types of fraud occurring in Deposit-taking SACCOs	0.856	7

Source: Researcher (2018)

A broad and in-depth review of literature on factors affecting fraud occurrence in deposit taking SACCOs was conducted to ensure content validity. The construct validity was assessed by factor analysis to ensure that all question items measured the same construct. The items loadings have to be greater than 0.4in order for the construct validity to be attained (Phan, Abdallah, & Matsui, 2011). Consequently if the item loadings in the questionnaire surpassed the benchmark figure of 0.4 then it indicated a high validity of measurement values.

3.8 Data Collection Procedure

A research permit was obtained from Strathmore University. Then an introductory letter was sent to the SACCOs a week beforecommencement of the data collection exercise. It was meant to prepare the staff in advance. The researcher personally administered the questionnaires to senior management with the assistance of two research assistants. The respondents in each respective SACCO were given a limited period of one week to fill the questionnaires, those who failed to respond on time were given an allowance of two extra days. Necessary follow-ups were made via emails and phone calls to ensure that the respondents filled the questionnaires. The primary data was collected between 20th January and 25th February in 2018.

3.9 Data Analysis Techniques

The researcher after retrieving data from the participants checked the questionnaires to ensure for completeness, accuracy and uniformity. The exercise was carried out to identify errors and eliminate them. Data was coded and put into the computer system for analysis process. The study employed frequencies and percentages to analyze demographic information. The study applied both descriptive and inferential statistical techniques to analyze data with an aim of addressing the set objectives. The descriptive techniques

incorporated mean scores, standard deviation and variance. While the inferential statistical models used were Independent T test and factor analysis. IBM SPSS software was utilized for both descriptive and inferential analysis of the primary data retrieved. The subsections below demonstrate the data analysis techniques used based on each specific objective of the study and the justification for their application.

3.9.1 Factors Influencing Fraud Occurrence in Deposit-taking SACCOs

Descriptive statistics was used to establish the factors influencing fraud occurrence in Deposit-taking SACCOs which was the first specific objective of the study. Means scores was used to establish the average rating of the level of influence of the factors influencing fraud occurrence. Ranking method was used to establish the most influential factors on fraud occurrence with highest mean rating in a descending order to the least influential.

Independent T test model was used to compare the perceptions of the restricted and unrestricted licensed SACCOs on the factors influencing fraud occurrence in deposit-taking SACCOs. Independent T test is an inferential, parametric measure applied when comparing two or more samples (Weave et al., 2017). According to Lund Research (2018) for a researcher to use this model, the dependent variable must be measured at ordinal or contionous level. Moreover, the independent variable has to encompass 2 or more categorical independent groupsto (Lund Research, 2018). Finally, there must be no association between the observations in each group or between the group themselves to (Lund Research, 2018).

Consequently the model was appropriate for the study since the data used to address the objective was in an ordinal scale measured by a 5 point-Likert scale. Furthermore the study consisted of two categorical independent groups namely, the restricted and unrestricted SACCOs. The Friedman test model that is also used for comparative analysis for ordinal data was not considered appropriate since it is only used for three or more independent

groups which was not relevant to our case (Lund Research, 2018). A ($P<0.05$) indicated that there was a significant statistical difference in perceptions on a particular statement linked to the objective (Minitab Inc, 2017). On the other hand a ($P>0.05$) indicated that there was no significant statistical difference in perceptions on a particular statement linked to the objective (Minitab Inc, 2017).

Multiple linear regression analysis was used to establish the factors influencing fraud occurrence in deposit-taking SACCOs in Kenya. Through determining if the variability in fraud occurrence was explained by the fraud related factors (pressure, opportunity and rationalization) and if the influence was significant. Pressure, opportunity and rationalization which were the independent variables of the study were regressed against fraud occurrence (denoted as types of fraud occurring in deposit-takind SACCOs in the questionnaire) as the dependent variable. The study developed the following regression equation below to illustrate the relationship between the aforementioned independent variables and the dependent variable;

$$Y \text{ (Fraud Occurrence)} = \alpha + \beta_1 \text{ Pressure} + \beta_2 \text{ Opportunity} + \beta_3 \text{ Rationalization} + \varepsilon$$

Whereby;

α is the constant term

β_1,β_2 and β_3 are the Beta coefficients for which we were trying to predict the value of Y.

ε is the error term

The regression model was tested and explained by the following statistical measures; correlation of co-efficient (R), co-efficient of determination (R-Square), collinearity diagnostics, Analysis of Variance, regression co-efficients and the F-test. The correlation of co-efficient assisted the study to establish the association of the variables and the strength

of the relationship. The co-efficient of determination (R-Square) assisted in establishing to what extent did the independent variables account for the variability of the dependent variable. Collinearity diagnostics was used to establish whether multicollinearity existenced amongst the independent variables.

The test was important since multicollinearity, which refers to a strong relationship between the independent variables waters down the unique variance of the dependent variable accounted for by the independent variables. The Analysis of Variance (ANOVA) was employed to determine whether the regression model is statistically significant in explaining the influence of the independent variables on the dependent variable. Finally, the regression co-efficients was used to isolate the independent variables and to show how each of those variables accounts for the variability of the dependent variable.

3.9.2 Types of Fraud Occurring in Deposit-taking SACCOs

Descriptive statistics was used to establish the types of fraud with the highest prevalent rate in deposit-taking SACCOs in line with the second specific objective of the study. Means scores was used to establish the average rating and ranking method of the perceived most common and less common frauds in deposit-taking SACCOs

Independent T test model was used to compare the perceptions of the restricted and unrestricted licensed SACCOs on the types of fraud occurring in deposit-taking SACCOs. The model was suitable for the study because the data used to address the objective was in an ordinal scale measured by a 5 point-Likert scale. Moreover, the study consisted of two categorical independent groups namely, the restricted and unrestricted SACCOs. A ($P<0.05$) indicated that there was a significant statistical variation in perceptions on a particular statement linked to the objective (Minitab Inc, 2017). Conversely, a ($P>0.05$) indicated that there was no significant statistical variation in perceptions on a particular

statement linked to the objective (Minitab Inc, 2017).The table below presents the summary of data analysis and presentation techniques of the study.

Table 3.2: Summary of Data Analysis and Presentation Techniques of the Study

SPECIFIC OBJECTIVES	DATA ANALYIS TECHNIQUES	TYPE OF VARIABLE TO BE MEASURED	PRESENTATION TOOL
General Information Gender; Age; Work experience; Highest level of education; Years of operation of the SACCO	**Descriptive Statistics** Percentages and Frequencies.	Dichotomous variable: Qualitative data Dummy variable: Qualitative/nominal data Continuous variable: Quantitative data	Tables.
First Objective To determine the factors that influence fraud occurrence in deposit-taking SACCOs.	**Descriptive Statistics** Mean, standard deviation and variance. **Inferential Statistics** Factor Analysis. Independent T test for comparative Analysis. correlation analysis. Multiple Linear Regression analysis.	Categorical Ordinal Variable: Qualitative data	Tables.
Second Objective To determine the types of fraud occurring in deposit taking SACCOs.	**Descriptive Statistics** Mean, standard deviation and variance. **Inferential Statistics** Factor Analysis. Independent T test for comparative Analysis.	Categorical Ordinal Variable: Qualitative data	Tables.

Source: Researcher (2018)

3.10 Ethical Considerations

The study maintained confidentiality and anonymity by making it clear to the respondents in the questionnaires that their names won't be used. All the responses that were obtained from the respondents in the questionnaires were aggregated for statistical analysis and interpretation without profiling the SACCOs by their names. The researcher allowed the participants to partake in the study freely out of their own will without being coerced or

unfairly pressurized. Moreover, the researcher respected the right of the respondents not to take part in the study.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1. Introduction

This report gives a summary of the primary statistical analysis and modeling results associated with the study of the factors affecting fraud occurrence in deposit-taking SACCOs. The purpose of this statistical report is to analyze a list of factors that are suspected to most likely lead to fraud in these institutions. The chapter contains a presentation of findings in the form of histograms and tables. The biography of respondents and their responses to the questions have also been captured. The chapter further contains an analysis of the findings using descriptive statistics and adequate explanations of the findings.

4.2. Response Rate

There are 176 duly registered deposit taking SACCOs in Kenya. The study used the entire population instead of a sample to grant each respondent an equal chance and to improve efficiency, effectiveness, and accuracy of the findings. One hundred and seventy six (176) questionnaires were prepared and represented to relevant respondents in each of the 176 registered deposit taking SACCOs. One hundred and eleven (111) questionnaires were filled and returned. As per Mugenda and Mugenda (2003) a response rate of above fifty percent (50%) is adequate for data analysis. The study response rate of 63.07% surpasses this threshold and is adequate for purposes of data analysis. The results are shown in table 4.1.

Table 4.1:Response Rate

Response Rate	Frequency	Percent (%)
Returned	111	63.07
Unreturned	65	36.93
Total	176	100.0

Source: Researcher (2018)

4.3. General Information

4.3.1. Response Rate

Of the 111 respondents, 39 (35.14%) were female and 72 (64.86%) were male from the SACCOs under this study. The data is summarized in table 4.2.

Table 4.2:Gender of Respondents

Gender	Frequency	Percent (%)
Female	39	35.14
Male	72	64.86
Total	111	100.0

Source: Researcher (2018)

4.3.2. Age of Respondents

Participants were required to give their age groups. The findings indicate that majority of the respondents were aged between 21 to 40 years old. Four respondents were below 21 years of age, 32 (28.82%) were 21-29 years old, 44 (39.65%) were 30-40 years old while those above 40 years of age were 31 employees who accounted for 27.93% of the respondents. The findings indicate a normal distribution among age groups of employees implying the diversity across the industry. The difference in age groups makes it easier to manage successions when older employees retire. These findings are summarized in table 4.3.

Table 4.3:Age of Respondents

Years	Frequency	Percent (%)
Below 21 years	0	0
21-29 years	34	30.63
30-40 years	46	41.44
Above 40 years	31	27.93
Total	111	100.0

Source: Researcher (2018)

4.3.3. Duration of Service

On the duration of service, it was found that majority of the respondents had worked at their respective SACCOs for more than 5 years. Twenty four (21.63%)respondents have worked for between 1-5 years, 41 (36.94%) for 6-10 years, 36 (32.43%) for 11-15 years whereas those who had worked for more than 15 years were 10 (9.00%). Given the many years of service, the respondents could adequately answer the questions related to fraud in SACCOs. This implies that their understanding of the research topic was unquestionable.

Table 4.4: Duration of Service

Years in Service	Frequency	Percent (%)
1-5 years	24	21.63
6-10 years	41	36.94
11-15 years	36	32.43
More than 15 years	10	9.00
Total	111	100.0

Source: Researcher (2018)

4.3.4. Level of Education

Majority of the respondents had a tertiary education qualification. The research found that out of 111 respondents, only one respondent had a secondary education qualification whereas the remaining 110 had a tertiary degree. The findings can be interpreted to imply that the respondents could adequately comprehend the research questions and that their responses were sufficient to answer the research questions. This information is summarized in table 4.5.

Table 4.5: Level of Education

Level of Education	Frequency	Percent (%)
Primary	0	0.00
Secondary	1	0.90
Tertiary	110	99.10
Total	111	100.0

Source: Researcher (2018)

4.3.5. Length of Time in Operation

The research found that 101 (90.99%) SACCOs had been in operation for more than 11 years, eight (7.21%) for 6-10 years whereas two had been operating for 1-5 years. Table 4.6 contains a summary of these findings.

Table 4.6: Length of Time in Operation

Years	Frequency	Percent (%)
1-5 years	2	1.80%
6-10 years	8	7.21%
11-15 years	45	40.54
More than 15 years	56	50.45
Total	111	100.0

Source: Researcher (2018)

4.3.6 Type of SACCO

The research found that there are 6 restricted License SACCOs accounting for 0.54% of the total SACCOs studied and there are unrestricted License SACCOs accounting for 99.46% of the total SACCOs. Table 4.7 contains a summary of these findings.

Table 4.7:Type of SACCO

Gender	Frequency	Percent (%)
Restricted License SACCOs	6	0.54
Unrestricted License SACCOs	105	99.46
Total	111	100.0

Source: Researcher (2018)

4.4. Degree of Effectiveness of Pressure Related Conditions in Resulting in Fraud Occurrence

4.4.1 Sampling Adequacy

To establish whether the data retrieved in regard to effectiveness of pressure related condition on fraud occurrence was adequate and suitable for factor analysis, descriptive analysis and Independent T test Test for comparative analysis. The study conducted two

main tests namely; Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Barlett's Test of Sphericity. In order for the data set to be considered as adequate and suitable for statistical analysis, the value of KMO should be more than 0.5 (Yong & Pearce, 2013) and Bartlett's test of Sphericity should be greater than 150 (Kaiser, 1974). The findings of the tests established that the KMO value of the data set was 0.664 which was more than the benchmark value of 0.5. Hence the data set was sufficient and appropriate for statistical analysis. Additionally the results also established that the Barlett's Test of Sphericity was very significant (Chi-square = 600.729 with 105 degrees of freedom at $p<0.05$). The findings provided enough justification for further statistical analysis to be conducted. Table 4.8 below presents the results of the sample adequacy tests.

Table 4.8: Pressure Related Conditions KMO Sampling Adequacy and Barlett's Sphericity Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.664
Barlett's Test of Sphericity	**Approx. Chi-Square**	600.729
	Df	105
	Sig.	0.000

Source: Researcher (2018)

4.4.2 Factor Analysis for Pressure Related Conditions

Factor analysis was conducted to ascertain if all the 15 question items measured the same construct. According to Phan, Abdallah and Matsui (2011) the benchmark value of the item loadings had to be greater than 0.4 to indicate a high validity of measurement values for the statements to be retained for further analysis (descriptive analysis and Independent T test Test for comparative analysis). From table 4.9, the 15 pressure related factors were loaded into four components after conducting a principal component analysis with a rotation varimax. All the highest coefficients for each statement in the components (marked in bold

in table 4.9) were beyond the yardstick value of 0.4. Consequently, all the 15 statements for pressure related factors were retained for descriptive analysis and Independent T test Test for comparative analysis. Table 4.9 presents the factor analysis findings for pressure related conditions.

Table 4.9: Factor Analysis for Pressure Conditions

	Component			
Pressure Related Factors	**1**	**2**	**3**	**4**
Management compensation relies to a great extent on bonuses	**0.692**			
Excess pressure on employees to meet financial targets	**0.729**			
Growth rate and profitability of the SACCO by far exceeds other SACCOs				**0.765**
Expected trends in SACCO profitability is unrealistic	**0.707**			
Cashflow problems including negative cashflows or inability to generate sufficient cashflows	**0.733**			
Reporting poor financial results has a negative impact on the SACCO.		**0.714**		
Significant portions of debts of the SACCO have been personally guaranteed by management or directors	**0.707**			
Persistent losses generated by the SACCO indicates a risk of liquidation or bankruptcy	**0.715**			
Management and/or directors have significant financial interests in the SACCO		**0.577**		
The SACCOs ability to meet SASRA requirements is marginal			**0.554**	
High vulnerability to rapid changes in technology or interest rates.		**0.739**		
The SACCO operates in a market that is very competitive and saturated				**0.779**
Significant decline in customer demand and business failures.			**0.731**	
Need to obtain additional debt or equity financing to stay competitive.	**0.510**			
New accounting, statutory or regulatory requirements.			**0.822**	

Source: Researcher (2018)

A factor score table portraying ta group mean score of the variables measuring similar factors was presented in Table 4.10 below. Component 1 represented emotional pressure

linked to poor performance of the firm that risks business failure and expectation by the management for positive performance to achieve sustainability. Component 2 represented greed linked to personal gains due to the fact that compensation is tied on financial performance of the firm. Component 3 represented pressure due to legal and market factors. Finally Component 4 represented pressure due competition from other firms in the same industry.

Table 4.10: Descriptive Results of Factor Scores linked to Pressure Related Factors

No.	Pressure related Factors	Mean
1.	Emotional pressure linked to poor performance of the firm that risks business failure and expectation by the management for positive performance to achieve sustainability.	3.46
2.	Greed linked to personal gains due to the fact that compensation is tied on financial performance of the firm.	3.09
3	Pressure due to legal and regulatory factors.	3.08
4	Pressure due competition from other firms in the same industry.	3.05

Source: Researcher (2019)

In Table 4.10 above, the pressure related factor perceived to be very effective in resulting to fraud occurrence, was factor 1 which was emotional pressure linked to poor performance of the firm that risks business failure and expectation by the management for positive performance to achieve sustainability. This is because the factor recorded a highest mean score of 3.46 when compared to other factors.

4.4.3 Descriptive Analysis

The research found that the group mean for the responses related to pressure to commit fraud was 3.25; the variance was 1.3376 whereas the standard deviation from the mean for the responses was 0.3091. The findings imply that 30.91% of the responses deviate from the mean.

The research also found that the factors most likely to result in fraud due to pressure were; unrealistic profitability or trend level expectations, cashflow problems including negative cashflows or inability to generate sufficient cashflows, management and/or board of directors having significant financial interest in the entity, persistent losses generated by the

SACCO indicating a risk of liquidation or bankruptcy or hostile takeover and expected trends in SACCO profitability being unrealistic. All these factors had a mean above the group mean of 3.25.

The factors that were ranked as being effective are; the need to obtain additional debt to stay competitive, marginal ability to meet statutory requirements and excessive pressure on employees to meet financial targets. These factors present an opportunity to engage in fraud in the respective SACCOs. Other factors that are below the group mean but ranked in the upper two third as being effective are; management compensation relying to a great extent on bonuses, operating results, financial or cash flows and new accounting, statutory or regulatory requirements. The means for each of these factors are 3.43, 3.39, 3.36, 3.18 and 3.13 respectively. Given the ability to determine their bonuses, the management can easily overstate the profits in a bid to increase the amount of bonuses being paid to them. This action results in overpayments in taxes and an imminent loss in the organization.

The factors there were less likely to result in fraud occurrence due to pressure were; unusual profitability compared to that of other competitors, market saturation and declining margins and impact of reporting poor financial results by the SACCO. Change in technology and significant declines in customer demand were ranked lower with a mean of 2.8 and 2.73 respectively. The findings are summarized in table 4.10.

Table: 4.11: Degree of effectiveness of pressure related conditions in resulting in fraud occurrence

Group mean=3.25

Group Variance=1.3376

Group Standard deviation=0.3091 (30.91%)

Statement	Mean
More Effective	
Unrealistic profitability or trend level expectations of SACCO members, regulators and others.	3.68

Cashflow problems including negative cashflows or inability to generate sufficient cashflows	3.66
Management or directors having significant financial interest in the entity	3.56
Persistent losses generated by the SACCO indicates a risk of liquidation or bankruptcy	3.47
Expected trends in SACCO profitability is unrealistic	3.46
Effective	
Need to obtain additional debt or equity financing to stay competitive	3.43
Marginal ability to meet statutory requirements	3.39
Excessive pressure on operating management or personnel to meet financial targets extended by board of directors or Chief Executive Officer	3.36
Significant portions of management's compensation represented by bonuses, operating results, financial or cash flows	3.18
New accounting, statutory or regulatory requirements	3.13
Less Effective	
Rapid growth or unusual profitability especially compared to that of other companies in the same industry	3.05
SACCO operates in a highly competitive and saturated market	2.96
Reporting poor financial results has a negative impact on the SACCO.	2.91
High vulnerability due to rapid change in technology and product development	2.8
Significant declines in customer demand and increasing business failures in the industry and economy as whole	2.73

Source: Researcher (2018)

4.4.4 Independent T-Test Comparative Analysis

This sub-section presents a comparative analysis of perceptions between restricted licensed SACCOs and unrestricted licensed SACCOS on degree of effectiveness of pressure related conditions resulting to fraud occurrence. To examine if significant variation existed on the perceptions of the aforementioned groups in regard to pressure related factors, Independent t-test model was employed for the comparative analysis. This is because it is a parametric test applicable for comparing mean differences between two autonomous groups. The results of the analysis were presented in table 4.12.

Table 4.12: Independent T-Test Comparative analysis between Restricted and Unrestricted License SACCOs on Perceptions of Degree of Effectiveness of Pressure Related Conditions in Resulting in Fraud Occurrence

Independent T-Tests		
Pressure Related Factors	**Levene's Test for Equality of Variances**	
	F	**Sig.**
Management compensation relies to a great extent on bonuses	5.673	0.019
Excess pressure on employees to meet financial targets	4.167	0.025
Growth rate and profitability of the SACCO by far exceeds other SACCOs	1.569	0.239
Expected trends in SACCO profitability is unrealistic	0.209	0.908
Cashflow problems including negative cashflows or inability to generate sufficient cashflows	0.354	0.751
Reporting poor financial results has a negative impact on the SACCO.	3.291	0.035
Significant portions of debts of the SACCO have been personally guaranteed by management or directors	1.668	0.124
Persistent losses generated by the SACCO indicates a risk of liquidation or bankruptcy	1.781	0.100
Management and/or directors have significant financial interests in the SACCO	1.983	0.069
The SACCOs ability to meet SASRA requirements is marginal	0.198	0.945
High vulnerability to rapid changes in technology or interest rates.	0.312	0.863
The SACCO operates in a market that is very competitive and saturated	1.866	0.059
Significant decline in customer demand and business failures.	0.114	0.995
Need to obtain additional debt or equity financing to stay competitive.	0.320	0.762
New accounting, statutory or regulatory requirements.	0.301	0.781

Source: Researcher (2019)

From table 4.12, the study established that there was no significant difference in perceptions between restricted licensed SACCOs and unrestricted licensed SACCOs on 12 out of 15

pressure related factors that results to fraud occurrence. This is because the p-values of these statements were more than 0.05. On the other hand, the study established that there was significant difference in perceptions between restricted and unrestricted licensed SACCOs on the 3 pressure related factors that influence fraud occurrence. They comprised of; (i) management compensation relies to a great extent on bonuses (F = 5.673; *p*-value = 0.019<0.05). (ii) Excess pressure on employees to meet financial targets (F = 4.167; *p*-value = 0.025<0.05). (iii) Reporting poor financial results has a negative impact on the SACCO. (F = 3.291; *p*-value = 0.035<0.05).

4.5. Degree of Effectiveness of Opportunity Related Conditions in Resulting in Fraud Occurrence

4.5.1 Sampling Adequacy

Sampling adequacy was evaluated by conducting KMO and Barlett's Test of Sphericity to establish whether the data collected was sufficient and suitable for factor analysis, descriptive analysis and Independent T test Test for comparative analysis. The results of the sampling adequacy tests revealed that the KMO value of the data set was 0.779 which was more than the benchmark value of 0.5. Consequently the data set was sufficient and apposite for statistical analysis. Moreover, the results also found that the Barlett's Test of Sphericity was adequately significant (Chi-square = 503.944 with 45 degrees of freedom at p<0.05). The findings provided sufficient reason for further statistical analysis to be conducted. Table 4.12 presents the results of the sample adequacy tests.

Table 4.13: Opportunity Related Conditions KMO Sampling Adequacy and Barlett's Sphericity Tests.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.779
Barlett's Test of Sphericity	**Approx. Chi-Square**	503.944
	Df	45

	Sig.	0.000

Source: Researcher (2018)

4.5.2 Factor Analysis for Opportunity Related Conditions

In order to establish if all the 10 statements for opportunity related conditions measured the same construct, factor analysis was conducted. From table 4.14, the 10 opportunity related factors were loaded into three components after conducting a principal component analysis with a rotation varimax. All the highest coefficients for each statement in the components (marked in bold in table 4.14) were beyond the yardstick value of 0.4. Therefore, all the 10 statements for opportunity related factors were retained for descriptive analysis and Independent T test Test for comparative analysis. Table 4.14 presents factor analysis results for opportunity related conditions.

The components extracted represent three opportunity related sources namely (i)

Table 4.14: Factor Analysis for Opportunity Related Conditions

	Component		
Opportunity Related Factors	**1**	**2**	**3**
Limitation of scope on the auditor with regard to access to information or people		**0.856**	
Significant related party transactions are not audited.		**0.812**	
Management is controlled and dominated by a few individuals		**0.577**	
Ineffective accounting and information systems.		**0.756**	
Internal audit and information technology functions experience high employee turnover rate	**0.865**		
The board of directors and its audit commitee are ineffective in their oversight role		**0.658**	
Financial statements contain elements whose value is based on significant estimates derived from subjective judgment			**0.643**
High turnover of CEOs or board of directors.	**0.783**		
Overly complex organizational structure.	**0.885**		

The SACCO is dominant and is able to influence terms in the industry			**0.783**

Source: Researcher (2018)

In Table 4.14, the opportunity related conditions that were loaded into Component 1 marked in bold represented those conditions linked to lack of proper management and separation of duties. Moreover the opportunity related conditions that were loaded into Component 2 marked in bold represented those conditions linked to lack of auditor independence and weak internal controls. Finally, the opportunity related conditions that were loaded into Component 3 marked in bold represented those conditions linked to failure to enforce controls due to domination.

In Table 4.15, the opportunity related factor perceived to be most effective in resulting to fraud occurrence, was factor 1 which was lack of proper management and separation of duties. This is because the factor recorded a highest mean score of 3.83 when compared to other factors.

Table 4.15: Descriptive Results of Factor Scores linked to Opportunity Related Factors

No.	Opportunity related Factors	Mean
1.	Lack of proper management and separation of duties	3.83
2.	Lack of auditor independence and weak internal controls	3.23
3	Failure to enforce controls due to domination	3.15

Source: Researcher (2019)

4.5.3 Descriptive Analysis

The group mean for conditions related to the opportunity to commit fraud was 3.53. The responses had a group variance of 1.1138 and a standard deviation of 31.82%. The research further found that the situations that were more effective in leading to fraudulent activities were presence of ineffective accounting systems and transactions not relating to the ordinary course of business which were not audited. Other factors were inadequate monitoring of significant internal controls and domination of management by single persons or a small group of people with fewer controls. All of these factors had means above the group mean. Their means were 3.93, 3.90, 3.78 and 3.76 respectively.

The conditions that could effectively lead to fraud occurrence are informal restrictions on the auditor, ineffective board of directors or audit committee, inability to determine individuals with controlling interest and high turnover of employees. These conditions had a mean of 3.74, 3.73, 3.45 and 3.39 respectively.

The research also found that some conditions were less likely to result in fraud occurrence. The conditions rated as being less effective include financial statements containing elements whose value is based on significant estimates derived from subjective judgment. It was also found that having a strong financial presence, being able to dominate the industry, and high turnover of the CEOs or Board of Directors was less likely to result in fraud occurrence. The findings are summarized in table 4.16.

Table: 4.16: Degree of effectiveness of opportunity related conditions in resulting in fraud occurrence

Group mean=3.53

Group Variance=1.1138

Group Standard deviation= 0.3182(31.82%)

Statement	Mean
More Effective	
Ineffective accounting and information systems.	3.93
Significant related party transactions are not audited.	3.90
Inadequate monitoring of significant internal controls	3.78
Management is controlled and dominated by a few individuals	3.76
Effective	
Limitation of scope on the auditor with regard to access to information or people	3.74
The board of directors and its audit committee are ineffective in their oversight role	3.73
Difficulty in determining the organization or individuals that that have controlling interest in the entity	3.45
Internal audit and information technology functions experience high employee turnover rate	3.39
Less Effective	

Financial statements contain elements whose value is based on significant estimates derived from subjective judgment	3.30
Overly complex organizational structure.	3.27
The SACCO is dominant and is able to influence terms in the industry	3.06
High turnover of chief executive officers or board of directors	3.03

4.5.4 Normality Tests

Normality test was conducted on the opportunity related factors data set to establish if it was normally distributed in order to know whether parametric or non-parametric tests can be employed. The findings of the normality test were presented in Table 4.17. The findings revealed that the data set was normally distributed this is because the *p*-value of the Shapiro-Wilk Test was greater than 0.05. Hence parametric tests such as Independent T-test analysis and Multiple Linear regression analysis could be employed.

Table 4.17: Normality Test for Opportunity Related Factors

Tests of Normality[a,b,c,f,g]							
	Opportunity	Kolmogorov-Smirnov[d]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Fraud Occurrence	2.60	.260	2	.			
	2.70	.260	2	.			
	2.80	.237	5	.200*	.932	5	.609
	2.90	.141	5	.200*	.979	5	.928
	3.00	.208	11	.198	.947	11	.602
	3.10	.253	3	.	.964	3	.637
	3.20	.260	2	.			
	3.40	.157	17	.200*	.932	17	.232
	3.50	.248	4	.	.925	4	.564
	3.60	.183	6	.200*	.960	6	.820
	3.70	.240	9	.143	.924	9	.426
	3.80	.260	2	.			
	3.90	.225	6	.200*	.876	6	.252
	4.00	.252	4	.	.916	4	.513
	4.10	.236	8	.200*	.925	8	.473
	4.20	.175	3	.	1.000	3	1.000
	4.30	.250	5	.200*	.885	5	.332
	4.40	.238	3	.	.976	3	.702
	4.50	.385	3	.	.750	3	.000
	4.60	.385	3	.	.750	3	.000
	4.80	.260	2	.			

	5.00	.278	4	.	.821	4	.145
*. This is a lower bound of the true significance.							
a. Fraud Occurrence is constant when OPPORTUNITY = 1.10. It has been omitted.							
b. Fraud Occurrence is constant when OPPORTUNITY = 2.40. It has been omitted.							
c. Fraud Occurrence is constant when OPPORTUNITY = 2.50. It has been omitted.							
d. Lilliefors Significance Correction							
f. Fraud Occurrence is constant when OPPORTUNITY = 4.70. It has been omitted.							
g. Fraud Occurrence is constant when OPPORTUNITY = 4.90. It has been omitted.							

Source: Researcher (2019)

4.5.5 Independent T-Test for Comparative Analysis

This sub-section presents a comparative analysis of perceptions between restricted licensed SACCOs and unrestricted licensed SACCOS on degree of effectiveness of opportunity related conditions resulting to fraud occurrence. To establish if significant variation existed on the perceptions of the afore-mentioned groups in respect to opportunity related factors, Independent T-test model was used for the comparative analysis. The findings of the comparative model were presented in table 4.18.

Table 4.18: Independent T-Test Comparative analysis between Restricted and Unrestricted License SACCOs on Perceptions of Degree of Effectiveness of Opportunity Related Conditions in Resulting in Fraud Occurrence

Independent T-Test		
Opportunity Related Factors	**Levene's Test for Equality of Variances**	
	F	**Sig.**
Limitation of scope on the auditor with regard to access to information or people	0.256	0.608
Significant related party transactions are not audited.	3.108	0.084
Management is controlled and dominated by a few individuals	27.518	0.000
Ineffective accounting and information systems.	4.637	0.054
Internal audit and information technology functions experience high employee turnover rate	9.178	0.020
The board of directors and its audit committee are ineffective in their oversight role	11.763	0.014
Financial statements contain elements whose value is based on significant estimates derived from subjective judgment	0.067	0.802

High turnover of CEOs or board of directors.	9.851	0.019
Overly complex organizational structure.	35.799	0.000
The SACCO is dominant and is able to influence terms in the industry	0.657	0.418

Source: Researcher (2019)

From table 4.18, the research investigation found that there was no significant difference in perceptions between restricted licensed SACCOs and unrestricted licensed SACCOs on 5 out of 10 opportunity related factors that influence fraud occurrence. This is because the p-values of these statements were more than 0.05. Besides that, the study found that there was significant difference in perceptions between restricted and unrestricted licensed SACCOs on 5 opportunity related factors that influence fraud occurrence. They were; (i) Management is controlled and dominated by a few individuals ($F = 27.518$ *p*-value = $0.000<0.05$). (ii) Internal audit and information technology functions experience high employee turnover rate ($F = 9.178$; *p*-value of $0.020<0.05$). (iii) The board of directors and its audit committee are ineffective in their oversight role ($F = 11.763$; *p*-value = $0.014<0.05$). (iv) High turnover of CEOs or board of directors ($F = 9.851$; *p*-value of $0.019<0.05$). (v) Overly complex organizational structure ($F = 35.799$; *p*-value of $0.000<0.05$).

4.6. Degree of Effectiveness of Fraud Rationalization Related Conditions in Resulting in Fraud Occurrence

4.6.1 Sampling Adequacy

The sampling adequacy of the data set was assessed by conducting KMO and Barlett's Test of Sphericity to establish whether the data collected was satisfactory and suitable for factor analysis, descriptive analysis and Independent T test for comparative analysis. The outcomes of the sampling adequacy tests disclosed the KMO value of the data set to be 0.721 which was more than the yardstick value of 0.5. Accordingly, the data set was sufficient and pertinent for statistical analysis. Furthermore, the findings also established that the Barlett's Test of Sphericity was adequately significant (Chi-square = 400.098 with 45 degrees of freedom at $p<0.05$). The findings provided adequate explanation for further statistical analysis to be conducted. Table 4.19 presents the results of the sample adequacy tests.

Table 4.19: Rationalization Related Conditions KMO Sampling Adequacy and Barlett's Sphericity Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.721
Barlett's Test of Sphericity	**Approx. Chi-Square**	400.098
	Df	45
	Sig.	0.000

Source: Researcher (2018)

4.6.2 Factor Analysis for Rationalization Related Conditions

In order to establish if all the 10 statements for opportunity related conditions measured the same construct, factor analysis was conducted. From table 4.20, the 10 rationalization related factors were loaded into three components after conducting a principal component analysis with a rotation varimax. All the highest coefficients for each statement in the components (marked in bold in table 4.20) were beyond the yardstick value of 0.4. Thus, all the 10 statements for rationalization related factors were maintained for descriptive analysis and independent T-Test for comparative analysis. Table 4.20 presents factor analysis results for rationalization related conditions.

Table 4.20: Factor Analysis for Rationalization Related Conditions

	Component		
Rationalization Related Factors	**1**	**2**	**3**
Year end transactions involve significant transactions that are unusual or highly complex		**0.502**	
Domineering management behaviour in dealing with the auditor.			**0.859**
SACCO management has previous known history of violation of laws and regulations against the SACCO		**0.781**	
The SACCO's values and ethical standards are poorly communicated, implemented, supported or enforced	**0.789**		

Communication of the SACCO's values or ethical standards are inappropriate	**0.605**		
Known history of disputes with auditors on accounting and auditing matters		**0.681**	
Reported failures in internal controls are not rectified in a timely manner	**0.854**		
Non-financial management's excessive participation in the selection of accounting principles.	**0.572**		
Committing to aggressive and unrealistic forecasts to conform to third party expectations	**0.669**		
Managements attempts to influence scope of an audit		**0.694**	

Source: Researcher (2018)

In Table 4.20 the rationalization related conditions that were loaded into Component 1 marked in bold represented those conditions linked to "the cold approach of the management in enforcing code of conduct gives me sufficient justification to commit fraud". Furthermore, the rationalization related conditions that were loaded into Component 2 marked in bold represented those conditions linked to "we the management of the firm are like its owner and so we can do whatever we want with it to achieve our own personal interests". Finally, the rationalization related conditions that were loaded into Component 3 marked in bold represented those conditions linked to "the auditors are just like employees and can be controlled to suit our own personal interests".

In Table 4.21 the rationalization related factor perceived to be very effective in resulting to fraud occurrence, was factor 3 which was "the auditors are just like employees and can be controlled to suit our own personal interests". This is because the factor recorded a highest mean score of 3.74 when compared to other factors.

Table 4.21: Descriptive Results of Factor Scores linked to Rationalization Related Factors

No.	Rationalization related Factors	Mean
1.	The auditors are just like employees and can be controlled to suit our own personal interests.	3.74
2.	We the management of the firm are like its owner and so we can do whatever we want with it to achieve our own personal interests.	3.38
3	The cold approach of the management in enforcing code of conduct gives me sufficient justification to commit fraud.	3.23

Source: Researcher (2019)

4.6.3 Descriptive Analysis

The characteristics in table 4.20 were analyzed to determine the mean responses for conditions that could result in fraud due to the rationalization of the act of fraud. The study found that the factors that these factors had a group mean of 3.27, variance of 0.5813 and a standard deviation of 0.2299 (22.99%).

The factors considered by this report to be more effective had a mean of above 3.27 in their responses. These factors were management domination over the auditor with an intention to influence his report (mean=3.72), significant transactions occurring near the end of the year posing "substance over form questions" (mean=3.54), failure by management to correct reported internal control loopholes (mean=3.37) and adoption of inappropriate means to minimize reporting for tax (mean =3.35).

The practices used by management to commit to other parties to achieve unrealistic and excessive interest by management to continue the earning trend both had a mean of 3.30 and 3.29 respectively; this is below the group mean and hence they fall in the category of being just effective. Other factors that are effective in resulting in fraud are unreasonable demands on the auditor and disputes with current and former auditors; their means were 3.28 and 3.22 respectively.

The SACCO's values and ethical standards are poorly communicated, implemented, supported or enforced were found to be less effective in resulting in fraud with a mean of 3.17 which is below the group mean of 3.27. Other less effective factors include; excessive participation in financial related matters by non-financial management members, known history of violating the law, and recurring attempts by the management to justify marginal

or inappropriate accounting on the basis of materiality with means of 3.15, 3.01 and 2.83 respectively. The findings are summarized in table 4.22.

Table: 4.22: Degree of effectiveness of fraud rationalization related conditions in resulting in fraud occurrence

Group mean=3.27

Group Variance=0.5813

Group Standard deviation=0.2299(22.99%)

Statement	Mean
More Effective	
Domineering management behaviour in dealing with the auditor.	3.72
Year end transactions involve significant transactions that are unusual or highly complex	3.54
Management failure to correct known reported conditions in internal controls in a timely manner	3.37
An interest by management employing inappropriate means to minimize reporting for tax motivated reasons	3.35
Effective	
Committing to aggressive and unrealistic forecasts to conform to third party expectations	3.30
Management's excessive interest in maintaining or increasing SACCOS earning trend	3.29
Imputing restrictions on auditor such as limitation of time to conduct the audit and report	3.28
Frequent disputes with the current or predecessor auditor on accounting, auditing, or reporting matters	3.22
Less Effective	
The SACCO's values and ethical standards are poorly communicated, implemented, supported or enforced	3.17
Non-financial management's excessive participation in the selection of accounting principles or determination of significant or the determination of significant estimates	3.15
Known history of violating the law	3.01

Recurring attempts by the management to justify marginal or inappropriate accounting on the basis of materiality	2.83

Source: Researcher (2018)

4.6.4 Normality Tests

Normality test was conducted on the rationalization related factors data set to establish if it was normally distributed in order to know whether parametric or non-parametric tests can be employed. The findings of the normality test were presented in Table 4.23. The findings revealed that the data set was normally distributed this is because the *p*-value of the Shapiro-Wilk Test was greater than 0.05. Hence Independent T-Test and Multiple Linear regression analysis could be employed.

Table 4.23: Normality Test for Rationalization Related Factors

Tests of Normality[b,c,d,e,f,g,i]							
	Rationalization	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Fraud Occurrence	1.00	.260	2	.			
	2.00	.260	2	.			
	2.60	.253	3	.	.964	3	.637
	2.70	.250	8	.150	.897	8	.273
	2.80	.185	5	.200*	.967	5	.852
	2.90	.317	5	.113	.897	5	.393
	3.00	.155	4	.	.998	4	.995
	3.10	.235	7	.200*	.856	7	.139
	3.20	.230	7	.200*	.942	7	.654
	3.30	.158	5	.200*	.979	5	.928
	3.40	.303	4	.	.791	4	.086
	3.50	.337	6	.031	.795	6	.053
	3.60	.160	10	.200*	.957	10	.751
	3.70	.274	5	.200*	.867	5	.254
	3.80	.181	9	.200*	.967	9	.872
	3.90	.255	6	.200*	.880	6	.271
	4.00	.385	3	.	.750	3	.000
	4.10	.385	3	.	.750	3	.000
	4.20	.260	2	.			
	4.30	.208	4	.	.950	4	.714
	4.70	.385	3	.	.750	3	.000
	5.00	.385	3	.	.750	3	.000
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

b. Fraud Occurrence is constant when Rationalization = 1.30. It has been omitted.
c. Fraud Occurrence is constant when Rationalization = 1.80. It has been omitted.
d. Fraud Occurrence is constant when Rationalization = 1.90. It has been omitted.
e. Fraud Occurrence is constant when Rationalization = 2.10. It has been omitted.
f. Fraud Occurrence is constant when Rationalization = 2.40. It has been omitted.
g. Fraud Occurrence is constant when Rationalization = 2.50. It has been omitted.
i. Fraud Occurrence is constant when Rationalization = 4.50. It has been omitted.

Source: Researcher (2019)

4.6.5 Independent T-Test Comparative Analysis

This sub-section presents a comparative analysis of perceptions between restricted licensed SACCOs and unrestricted licensed SACCOS on degree of effectiveness of rationalization related conditions resulting to fraud occurrence. To determine if significant variation existed on the perceptions of the aforementioned groups in respect to rationalization related factors, Independent T-Test model was used for the comparative analysis. The findings of the comparative model were presented in table 4.24 below.

Table 4.24: Independent T-Test Comparative analysis between Restricted and Unrestricted License SACCOs on Perceptions of Degree of Effectiveness of Rationalization Related Conditions in Resulting in Fraud Occurrence

Independent T-Test		
Rationalization Related Factors	**Levene's Test for Equality of Variances**	
	F	**Sig.**
Year end transactions involve significant transactions that are unusual or highly complex	0.705	0.459
Domineering management behavior in dealing with the auditor.	0.360	0.536
SACCO management has previous known history of violation of laws and regulations against the SACCO	0.909	0.352
The SACCO's values and ethical standards are poorly communicated, implemented, supported or enforced	2.909	0.074
Communication of the SACCO's values or ethical standards are inappropriate	0.819	0.273
Known history of disputes with auditors on accounting and auditing matters	2.538	0.086

Reported failures in internal controls are not rectified in a timely manner	2.107	0.162
Involvement of non-financial management's in the selection of accounting policies.	0.011	0.843
Committing to aggressive and unrealistic forecasts to conform to third party expectations	9.391	0.010
Managements attempts to influence scope of an audit	8.003	0.016

Source: Researcher (2019)

From table 4.24, the research investigation found that there was no significant difference in perceptions between restricted licensed SACCOs and unrestricted licensed SACCOs on 8 out of 10 rationalization related factors that influence fraud occurrence. This is due to the fact that the p-values of these statements were more than 0.05. Conversely, the study revealed that there was significant difference in perceptions between restricted and unrestricted licensed SACCOs on; (i) Committing to aggressive and unrealistic forecasts to conform to third party expectations ($F = 9.391$; p-value $= 0.010 < 0.05$). (ii) Managements attempts to influence scope of an audit ($F = 8.003$; p-value $= 0.016 < 0.05$).

4.7 The Types of Fraud Occurring in Deposit Taking SACCOs

4.7.1 Sampling Adequacy

The sampling adequacy of the data set was evaluated by performing KMO and Barlett's Test of Sphericity to determine whether the data retrieved was adequate and appropriate for factor analysis, descriptive analysis and Independent T test Test for comparative analysis. The results of the sampling adequacy tests established that the KMO value of the data set was 0.632 which was more than the yardstick value of 0.5. Therefore, the data set was sufficient and applicable for statistical analysis. Furthermore, the findings also established that the Barlett's Test of Sphericity was adequately significant (Chi-square = 177.776 with 21 degrees of freedom at $p<0.05$). The findings provided enough reason for further statistical analysis to be conducted. Table 4.25 presents the results of the sample adequacy tests.

Table 4.25: Types of Fraud KMO Sampling Adequacy and Barlett's Sphericity Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.632
Barlett's Test of Sphericity	**Approx. Chi-Square**	177.776
	Df	21
	Sig.	0.000

Source: Researcher (2018)

4.7.2 Factor Analysis for Types of Fraud Occurring in Deposit Taking SACCOs

In order to ascertain if all the 7 statements representing types of frauds measured the same construct, factor analysis was conducted. From table 4.26, the 7 statements representing types of fraud were loaded into two components after conducting a principal component analysis with a rotation varimax. All the highest coefficients for each statement in the components (marked in bold in table 4.26) were beyond the yardstick value of 0.4. Thus, all the 7 statements for rationalization related factors were maintained for descriptive analysis and independent T-Test for comparative analysis.

Table 4.26: Factor Analysis for Types of Fraud Occurring in Deposit Taking SACCOs

	Component	
Types of Fraud Occurring in Deposit Taking SACCOs	**1**	**2**
Accounting Fraud		**0.547**
Asset Misappropriation		**0.836**
Corruption		**0.761**
Employee Fraud (Insider)	**0.605**	
Employee and Outsiders	**0.808**	
Employees and Customers	**0.878**	
Employees and Management	**0.548**	

Source: Researcher (2018)

4.7.3 Descriptive Analysis

Table 4.27, presents the descriptive analysis of types of fraud and their prevalence rate in deposit taking SACCOs to address the second objective. The results were presented in form of mean and standard deviation. The findings of the study revealed that the type of frauds perceived which have a high prevalence rate in deposit taking SACCOs were; Employee Fraud (Insider) (Mean = 3.3158; Standard Deviation = 1.17734), Asset Misappropriation (Mean = 3.2982; Standard Deviation = 1.43859) and Corruption (Mean = 3.2719; Standard Deviation = 1.33228). Interestingly, the type of frauds perceived which have a low prevalence rate were; accounting fraud (Mean = 2.9298; Standard Deviation = 1.23889) and employees and management fraud (Mean = 2.7807; Standard Deviation = 1.32210).

Table 4.27: Types of Fraud in Deposit Taking SACCOs and their Prevalence

Types of Fraud Occurring in Deposit Taking SACCOs	Mean	Standard Deviation
Employee Fraud (Insider)	3.3158	1.17734
Asset Misappropriation	3.2982	1.43859
Corruption	3.2719	1.33228
Employees and Customers	3.1491	1.37121
Employees and Outsiders	3.1140	1.33542
Accounting Fraud	2.9298	1.23889
Employees and Management	2.7807	1.32210

Source: Researcher (2018)

4.7.4 Independent T-Test Comparative Analysis

This sub-section presents a comparative analysis of perceptions between restricted licensed SACCOs and unrestricted licensed SACCOS on the types of fraud occurring in deposit taking SACCOs. To determine if significant variation existed on the perceptions of the aforementioned groups in respect to the types of fraud, Independent T-Test model was used

for the comparative analysis. The findings of the comparative model were presented in table 4.28.

Table 4.28: Independent T-Test Comparative analysis between Restricted and Unrestricted License SACCOs on Types of Fraud Occurring in Deposit Taking SACCOs

Independent T-Test		
Types of Fraud Occurring in Deposit Taking SACCOs	**Levene's Test for Equality of Variances**	
	F	**Sig.**
Accounting Fraud	0.089	0.967
Asset Misappropriation	0.325	0.500
Corruption	0.700	0.215
Employee Fraud (Insider)	0.021	0.999
Employee and Outsiders	0.229	0.647
Employees and Customers	0.063	0.881
Employees and Management	1.614	0.119

Source: Researcher (2018)

From table 4.28 above, the research inquiry established that there was no significant difference in perceptions between restricted licensed SACCOs and unrestricted licensed SACCOs on 7 out of 7 statements linked to the types of fraud and their prevalence rate in deposit-taking SACCOs. This is because the *p*-values of these types of fraud were more than 0.05.

4.8 Factors Influencing Fraud Occurrence in Deposit-Taking SACCOs

To establish the factors influencing fraud occurrence in deposit-taking SACCOs in Kenya, correlation analysis was applied to determine the association between the independent variables (pressure, opportunity and rationalization) and the dependent variable (fraud occurrence). Additionally, multiple regression analysis was employed to ascertain the influence of the fraud-related factors (pressure, opportunity and rationalization) on fraud occurrence.

4.8.2 Multiple Regression Analysis

Multiple regression analysis based on a linear regression model was used to ascertain the influence of pressure, opportunity and rationalization on fraud occurrence in deposit-taking SACCOs in Kenya. The findings of the analysis were interpreted and discussed in details in the subsequent subsections.

4.8.2.1 Multicollinearity

In order to establish if collinearity exists, diagnostics assessments were conducted and the findings were displayed in table 4.27. The tolerance and the VIF (Variance Inflation Factor) values were used to indicate if indeed multicollinearity existed between the independent variables. The greater the VIF value then the higher the level of multicollinearity and the instability of the b and beta co-efficients. Additionally when the tolerance value is near to 0 then it signifies a high level of multicollinearity of that variable with other predictor variables and the b and beta co-efficients will be unstable.

Table 4.27: Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	**VIF**
1	Pressure	0.847	1.181
	Opportunity	0.805	1.243
	Rationalization	0.903	1.107
a. Dependent Variable: Fraud Occurrence			

Source: Researcher (2019)

Pallant (2007) recommended that there will be no multicollinearity if the tolerance value is greater than 0.1 and the VIF value is less than 10. These were the benchmark values that this study used to test for multicollinearity between the independent variables. From table 4.27, the results of the analysis revealed that the tolerance and the VIF values of pressure were 0.847 and 1.181 respectively. On the other hand, the tolerance and the VIF values of opportunity were 0.805 and 1.243 respectively. Finally the tolerance and the VIF values of rationalization were 0.903 and 1.107 respectively. Based on the findings of the analysis, the

tolerance values of all the independent variables were more than 0.1 and closer to 1. Moreover the VIF values of all the independent variables were less than 10. Hence this meant that there was no multicollinearity amongst all the independent variables assessed.

The study also used Collinearity Diagnostics which is a more advanced technique of testing for multicollinearity. In regard to this technique, Eigen values, condition indices and variance proportions are employed to assess for multicollinearity. A small Eigen value closer to 0 portrays the presence of multicollinearity (Callaghan & Chen, 2008). The condition index acts as a benchmark against how close the Eigen value is closer to zero. The yard stick value of a condition index to show the existence of multicollinearity is a figure that is equal or more than 30 even when the tolerance and the VIF values shows that there is no multicollinearity (Kolacz, 2012). The study employed this benchmark rule to assess for the presence of multicollinearity in regard to condition indices.

The variance proportions are closely linked to the concept of Eigen values though they provide us with a deeper, detailed information concerning the presence or lack of multicollinearity (Callaghan & Chen, 2008). The condition employed by the variance proportions to establish the presence of multicollinearity is that its values have to be equal or more than 0.50 for two or more predictor variables containing a greater value of condition index (Callaghan & Chen, 2008). The study employed this rule of thumb to assess for the existence of multicollinearity in regard to the variance proportions. The findings of the analysis of collinearity diagnostics were presented in table 4.28.

Table 4.28: Collinearity Diagnostics

CollinearityDiagnostics[a]							
				Variance Proportions			
Model	Dimension	Eigen Value	Condition Index	(Constant)	Pressure	Opportunity	Rationalization
1	1	3.962	1.000	0.00	0.00	0.00	0.00
	2	0.017	15.217	0.00	0.11	0.26	0.75
	3	0.014	17.038	0.08	0.37	0.74	0.05
	4	0.008	22.765	0.92	0.52	0.00	0.20

a. Dependent Variable: Fraud Occurrence

Source: Researcher (2019)

In table 4.28, the Eigen values of all the predictor variables based on the 2nd, 3rd and 4th dimensions were 0.017, 0.014 and 0.008 respectively. To assess the closeness of the Eigen values to zero the study assessed the values of the condition indices, and from table 4.26 all the figures of the condition indices were less than the benchmark value of 30. Hence this shows that there was no multicollinearity amongst the independent variables. The results were further justified by the values recorded by the variance proportions. This is because at least two predictor variables associated with a high condition index as portrayed in table 4.28 did not post a figure of more than 0.50.

For instance in the 2nd dimension of the condition index that posted a value of 15.217, only one predictor variable (rationalization) recorded a variance proportion value of 0.75 that was more than 0.50. Instead of the 2 or all the three predictor variables that were supposed to record variance proportion values of more than 0.50 in order to establish the existence of multicollinearity. Moreover, in the 3rd dimension of the condition index that posted a value of 17.038, only one predictor variable (opportunity) recorded a variance proportion value of 0.74 which was more than 0.50. Instead of the 2 or all the three independent variables that were supposed to record variance proportion figures of more than 0.50 in order to ascertain the presence of multicollinearity.

Finally, in the 4th dimension of the condition index that realized a value of 22.765 which was the highest condition index figure compared to other preceding dimensions only one independent variable (pressure) posted a variance proportion values of 0.52 that was more than 0.50. Instead of the 2 or all the three independent variables that were supposed to record variance proportion figures of more than 0.50 in order determine the existence of multicollinearity.

4.8.2.2 Model Summary

To establish the factors that influence fraud occurrence in deposit-taking SACCOs in Kenya Multiple Linear Regression Model was employed. The dependent variable (types of fraud occurrences) was regressed against the independent variables that represented the primary factors in the fraud theoretical model that leads to fraud, they comprised of; pressure, opportunity and rationalization. The model summary is presented in table 4.29.

Table 4.29: Model Summary

Model Summary				
Model	**R**	**R-Square**	**Adjusted R-Square**	**Std. Error of the Estimate**
1	0.543	0.295	0.275	0.50724
a. Predictors: (Constant), Pressure, Opportunity, Rationalization b. Dependent Variable: Fraud Occurrence				

Source: Researcher (2019)

In table 4.29, the R-value of 0.543 meant that 54.3% of the data was described by the model. Consequently the predictive power of the regression model was moderately high. The R-Square of the model was 0.295 which clearly illustrates that 29.5% variability of the dependent variable (fraud occurrence) was explained by the three independent variables namely; pressure, opportunity and rationalization. The R-square assumes that all the predictor variables in the model accounts for the variation of the dependent variable (Waiganjo, 2018). Conversely, the adjusted R-Square assesses for the percentage of variation explained by only those independent variables that actually influences the dependent variable (Torres-Ryna, 2007). Hence it delivers a more truthful relationship between the independent and dependent variables by only focusing on the most significant predictors (Torres-Ryna, 2007).

Moreover the adjusted R-Square comprises of a term that penalizes a model for each extra explanatory variable that does not assist in predicting the dependent variable. When the sum

of the predictor variables are smaller and the number of cases are big then it means that the adjusted R-Square is closer to the R-Square. In the case of the regression model summary presented in table 4.29, the value of the R-Square (0.295) was closer to the value of the adjusted R-Square (0.275) which meant that generally all the 3 predictors in the model truly explains the variability of the dependent variable. Moreover in table 4.29, the standard error of estimate had a value of 0.50724. The standard error of estimate indicates how far the data will fall from the regression line (Frost, 2019). The smaller the value the better the goodness fit of the model since smaller values illustrates that the observations closely fits the regression line (Frost, 2019). In regard to this study, the standard error of estimate had a considerably lower value hence it meant that the observations made by the study were closer to the regression line.

4.8.2.3 Analysis of Variance

The study conducted the Analysis of Variance in order to determine the regression model's goodness of fit by assessing the significance level of the model. The benchmark rule to ascertain whether the model was statistically significant in establishing the influence of the independent variables (pressure, opportunity and rationalization) on the dependent variable (fraud occurrence) was if the p-value was less than 0.05. The findings of the Analysis of Variance was presented in table 4.30.

Table 4.30 Analysis of Variance

ANOVAb						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	11.498	3	3.833	14.897	0.000
	Residual	27.530	107	0.257		
	Total	39.028	110			
a. Dependent Variable: Fraud Occurrence b. Predictors: (Constant), Pressure, Opportunity, Rationalization						

Source: Researcher (2019)

From table 4.30, the F statistic was 14.897 and the significance level was 0.000 which was less than 0.05. Hence this meant that the model is statistically significant in explaining the influence of the independent variables (pressure, opportunity and rationalization) on the dependent variable (fraud occurrence).

4.8.2.4 Regression Co-efficients

The regression co-efficients shows to what extent the dependent variable changes when there is a unit increase of the independent variable and it further clarifies whether the variation of the dependent variable was significantly or not significantly influenced by the unit increase of the independent variable. Table 4.31 depicts the regression co-efficients of pressure, opportunity and rationalization and how these predictor variables influences fraud occurrence (dependent variable) in deposit-taking SACCOs in Kenya.

Table 4.31 Regression Co-efficients

Co-efficientsa						
Model		**Unstandardized Co-efficients**		**Standardized Co-efficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	0.533	0.463		1.152	0.252
	Pressure	0.152	0.115	0.117	1.325	0.188
	Opportunity	0.273	0.092	0.267	2.953	0.004
	Rationalization	0.367	0.092	0.340	3.985	0.000
a. Dependent Variable: Fraud Occurrence						

Source: Researcher (2019)

From table 4.31, the study developed a regression equation based on the co-efficient retrieved from the analysis. Thus the proposed regression equation was summarized below;

Fraud Occurrence = 0.533 + 0.152 Pressure + 0.273 Opportunity + 0.367 Rationalization

The constant value of 0.533 from table 4.31, depicts that if all the fraud-related factors comprising of pressure, opportunity and rationalization were absent then the level of fraud occurrence would be at 0.533 which is a very small value. In respect to the predictor

variables, when pressure increases by a single unit then fraud occurrence would increase by 15.2%. Though the influence of pressure on fraud occurrence would be statistically insignificant at 95% confidence level since the p-value of pressure which was 0.188 was more than the benchmark p-value of 0.05. On the other hand, when opportunity increases by a single unit then fraud occurrence would increase by 27.3%. Besides that the influence of opportunity on fraud occurrence would be statistically significant at 95% confidence level because the p-value of opportunity which was 0.004 was less than the benchmark p-value of 0.05. Finally, a unit increase of rationalization will consequently increase fraud occurrence by 36.7%. Furthermore, the influence of rationalization on fraud occurrence would be statistically significant at 95% confidence level since the p-value of rationalization which was 0.000 was less than the benchmark p-value of 0.05.

4.9 Summary of Analysis

To establish the factors that influence fraud occurrence in deposit-taking SACCOs, the fraud triangle theory was used. ISA 240 use the fraud triangle theory to identify potential red flags that guide auditors in identifying factors influencing fraud occurrence. These red flags were used in this study. The fraud triangle theory groups fraud occurring factors in three categories i.e. pressure, opportunity and rationalization related factors.

The factor analysis conducted on the three factors (pressure, opportunity and rationalization) revealed all the factors used as red flags were significant and therefore were retained for the purposes of further descriptive and inferential analysis.

Factor analysis on pressure factors revealed four underlying factors including (1) those associated emotional pressure linked to poor performance of the firm that risks business failure and expectation by the management for positive performance to achieve sustainability, (2) those factors associated with greed and personal gains due to the fact that compensation is tied on financial performance of the firm, (3) factors associated with

pressure from legal and regulatory environment and (4) pressure due competition from other firms in the same industry

The pressure related factor perceived to be very effective in resulting to fraud occurrence, was emotional pressure linked to poor performance of the firm that risks business failure and expectation by the management for positive performance to achieve sustainability. This is because the factor recorded a highest mean score of 3.46 when compared to other factors.

Factor analysis generated three underlying opportunity related factors that included (1) those conditions linked to lack of proper management and separation of duties (2) conditions linked to lack of auditor independence and weak internal controls and (3) conditions linked to failure to enforce controls due to domination.

The opportunity related factor perceived to be very effective in resulting to fraud occurrence, was factor 1 which was lack of proper management and separation of duties. This is because the factor recorded a highest mean score of 3.83 when compared to other factors.

Factor analysis generated three components that indicated the underlying rationalization factors. They included; (1) management's insensitivity in enforcing code of conduct on employees; (2) justifications by management assuming status of co-ownership of the firm and (3). represented those conditions linked to "the auditors are just like employees and can be controlled to suit our own personal interests".

The rationalization related factor perceived to be very effective in resulting to fraud occurrence, was factor 3 which was "the auditors are just like employees and can be controlled to suit our own personal interests". This is because the factor recorded a highest mean score of 3.74 when compared to other factors.

Independent T test was conducted to provide comparative analysis of perceptions between restricted licensed SACCOs and unrestricted licensed SACCOS on the factors influencing fraud occurrence and fraud occurring in deposit taking SACCOs. This test was used to determine if significant variation existed on the perceptions of the aforementioned groups in respect to the factors influencing fraud occurrence and fraud.

The ANOVA test conducted revealed the relevance of the independent variables (pressure, opportunity and rationalization) in influencing fraud occurrence since the p value was 0.000 which was less than 0.05. This means that the model is statistically significant in explaining the influence of the independent variables on the dependent variable (fraud occurrence).

The predictive power of the regression model was low. The adjusted R-Square of the model was 0.275 which clearly illustrates that 27.5% variability of the dependent variable (fraud occurrence) was explained by the three independent variables namely; pressure, opportunity and rationalization. This means there are other variables not included in the model that could explain 72.5% of fraud occurrence.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter outlines the study's findings in summary. The chapter also draws out conclusions from the study's findings and outlines recommendations based on the research objectives.

5.2 Discussions of the findings

The aim of the study was to establish the factors that influence fraud occurrence in deposit-taking SACCOs in Kenya. The objectives of the study were: to establish the factors that influence fraud occurrence in deposit-taking SACCOSs, and to establish the types of fraud occurring in deposit-taking SACCOs. The study outcomes were produced using primary data analysis that comprised of descriptive analysis, factor analysis, comparative analysis and regression analysis. The ensuing sections discuss the study outcomes based on the two specific objectives of the study.

5.2.1. Factors Influencing Fraud Occurrence in Deposit-taking SACCOs

The study sought to determine the factors affecting fraud occurrence in deposit-taking SACCOs in Kenya.

5.2.1.1 Pressure

Factor analysis revealed that the pressure related factor perceived to be very effective in resulting to fraud occurrence, was emotional pressure linked to poor performance of the firm that risks business failure and expectation by the management for positive performance to achieve sustainability. However, there was a significant difference on perceptions of restricted and unrestricted licensed SACCOs on three pressure related factors, namely: (i)

management compensation relies to a great extent on bonuses (ii) Excess pressure on employees to meet financial targets (iii) Reporting poor financial results has a negative impact on the SACCO. The sharp differences between perceptions could be explained by the ease with respect to meeting unrestricted license status. Restriction of licenses was based on meeting capital adequacy and liquidity requirements. Albrecht (2011) noted that pressure to perform to third party expectations was a major predisposing factor to committing fraud. This is in agreement with Hillson *et al.,* (2015) who established that 95% of all fraud cases result from financial difficulties. In this case, the need to maintain positive cash flows, i.e., liquidity on both the firm and members is more likely lead to fraudulent activities in the SACCOs.

As SACCOs struggle to continue being licensed to operate, employees are put under immense pressure to meet regulator and member expectations. Since CEOs of SACCOs are mostly elected by members to office, members would continually assess their performance based on ease of getting credit facilities from the SACCO and the amount of end year bonuses they receive. These and numerous other employee situations and pressures are some of the forces that lead to occurrence of fraud (Hillson *et al.,* (2015). Additional debt to fund SACCO operations in order to be seen to remain competitive in the market could be another source of pressure. According to the debt hypothesis, these debt covenants affects the liquidity status of a firm as it may lead to liquidation of assets, restriction as well as revocation of licenses. This is in line with the agency theory that suggests that the agent will want to safeguard the assets of the principal only insomuch as it is of benefit to the agent.

Interestingly the **regression analysis results revealed that pressure does not significantly influence fraud occurrence in deposit-taking SACCOs in Kenya**. On the other hand, **the correlation analysis results revealed that pressure has a weak linear association with fraud occurrence**. The findings of the study contradicted with the fraud triangle theory

hypothesis which proposes that pressure is a vital factor that contributes to fraud occurrence. In other words, simply having pressure created by a non-shareable problem, does not mean that the individual will succumb to the pressure to commit fraudulent acts. A possible explanation for this is given by Kranacher et al., (2011) who profiled fraudsters in two categories; i.e. the accidental fraudster and the predator fraudster. The predator only seeks opportunity and does not require the other two elements of the fraud triangle, pressure and rationalization to enhance their decision to commit ~~chances of committing~~ a crime. Predators unlike accidental fraudsters, set out immediately to devise fraud schemes. Krancher et al (2011) stated that the fraud triangle was created with the "accidental fraudster" in mind rather than the predator. The accidental fraudster does not set out primarily to commit fraud but they gradually succumb to pressure to commit fraud.

5.2.1.2 Opportunity

Wilson (2014) definition of the opportunity to commit fraud includes gaps, loopholes and weaknesses in the internal control systems of an organization. These weaknesses are then exploited by unscrupulous individuals for their own benefits at the expense of the company. The factor analysis revealed theopportunity related factor perceived to be very effective in resulting to fraud occurrence, was component 1 which was lack of proper management and separation of duties. This is because the factor recorded a highest mean score of 3.83 when compared to other factors.

The descriptive analysis showed that (i) Ineffective accounting and information systems., (ii) Significant related party transactions are not audited. and (iii) inadequate monitoring of significant internal controls were most effective opportunity related factors. These factors had means of 3.74, 3.73 and 3.45 respectively. The least effective in influencing fraud occurrence include factors such as (i) Overly complex organizational structure.; (ii) The SACCO is dominant and is able to influence terms in the industry; and (iii) high turnover

of chief executive officers or board of directors. These factors had means of 3.27, 3.06 and 3.03.

This study revealed general consensus amongst restricted and unrestricted SACCOs in all but five opportunity related factors. These opportunity related factors include; i) Management is controlled and dominated by a few individuals, (ii) Internal audit and information technology functions experience high employee turnover rate, ((iii) The board of directors and its audit committee are ineffective in their oversight role, (iv) High turnover of CEOs or board of directors, and (v) Overly complex organizational structure.

The findings of this study are in line with those of CIMA (2015) and Hillison et al. (2015) showing that strong internal control systems were an important means of limiting the opportunity to commit fraud. Based on this study, the high employee turnover presents an opportunity for incoming employees to loot from the organization and blame the former employees for committing the fraud. Restricted SACCOs may experience higher levels of staff turnover from both top level management, internal audit and information technology management units. Using the agency theory as an explanation of this variation, one could argue that out of self-interest, employees would be motivated to secure as much financial benefits from the SACCO given the uncertainty of their current employment status. Overly complex organizational structures or unclear reporting lines may be unique phenomenon to restricted SACCOs who may employ staff based on patronage rather than merit.

The **regression analysis results revealed that opportunity significantly influences fraud occurrence in deposit-taking SACCOs in Kenya**. Moreover the **correlation analysis results indicated that opportunity had a weak positive relationship with fraud occurrence**. The findings concur with the proposition of the fraud triangle theory which contends that opportunity plays an important role in fraud occurrence. The findings related to the weak correlation relationship analysis could be attributed to the fact that deposit-taking SACCOs still relies heavily on traditional internal controls to prevent or detect fraud

and that their business models have remained virtually the same over a long period of time. This has provided opportunities to people to commit fraud in deposit-taking SACCOs in Kenya.

5.2.1.3 Rationalization

Rationalization to commit fraud occurs when an employee tries to justify his fraudulent actions (Clark and Hollinger, 2013). Similarly, the actions of superior staff contribute to a great extent to the decisions of junior employees. According to the findings of the study, one of the factors that influence fraud occurrence is the domination of the management over the auditor. Since management hires and pays for the services of an auditor, it is likely that management would want to use the opportunity to influence the audit report; they feel that they are entitled to influence the audit report. Management may use unfair practices such as threat of firing, to commit the auditors to perform some tasks. Such incidences may result in disputes with auditors. Management's decisions to make significant transactions at the close of the year may appear to be normal but in real sense they are an avenue to commit fraud. The factor analysis results revealed The rationalization related factor perceived to be very effective in resulting to fraud occurrence, was factor 3 which was "the auditors are just like employees and can be controlled to suit our own personal interests". This is because the factor recorded a highest mean score of 3.74 when compared to other factors. Furthermore, there was a general consensus between restricted and restricted licensed SACCOs that the rationalization factor effectively results in fraud occurrence.

Hillson *et al.*, (2015) contended that integrity is a limiting factor that keeps a person from misusing assets. The findings of the study contrasted with Hillson et al., (2015) when it found that ineffective communication and enforcement of ethical standards were less likely to lead to fraudulent activities in the SACCO industry. The rationalization factor posted a high component loading of 0.789 that justified the descriptive results. Furthermore, there

was a general consensus among the restricted and unrestricted licensed SACCOs that the aforementioned **rationalization factor does not lead to fraud occurrence**. Similarly, participation in financial related decision making programs by non-financial managers, and a history of violating laws were less likely to lead to fraud cases.

Moreover, **the regression analysis results portrayed that rationalization significantly influences fraud occurrence in deposit-taking SACCOs in Kenya**. Furthermore, findings of **correlation analysis established that rationalization had a weak positive relationship with fraud occurrence**. The findings agree with the proposition of the fraud theory which hypothesizes that the rationalization is a vital factor that leads to fraud occurrence. The findings can be explained by the cultural transmission theory which argues that fraud and crime is socialized and accepted into the culture of an organization or society and as such it is rationalized as a normal occurrence.

5.2.4 Types of Fraud Occurring in Deposit-Taking SACCOs

The study established that frauds with a high occurrence rate in deposit taking SACCOs were Employee Fraud, Asset Misappropriation and Corruption. The findings were justified by high component loading values of 0.605, 0.836 and 0.761 respectively. This finding is in agreement with PwC (2016) which reported the highest occurrence rates being as a result of asset misappropriation (64%), and corruption (24%). Worth noting was that there was a general consensus among the restricted and unrestricted licensed SACCOs that these types of fraud had a high occurrence rate in deposit taking SACCOs. Furthermore, corruption and asset misappropriation is perpetrated by employees who are enlightened by the systems and controls of the organizations that they work for. Interestingly, the type of frauds perceived to have a low occurrence rate in Kenyan deposit taking SACCOs were accounting fraud and employees & management fraud. These types of fraud had a moderately high component loading values of 0.547 and 0.548 respectively. Interestingly, there was general consensus

among restricted and unrestricted licensed SACCOs that these two types of fraud had a low occurrence rate in deposit taking SACCOs. The possible reasons could be that asset misappropriation is the easiest form of fraud to perpetrate (PwC, 2016) rather than manipulating financial statements. However, financial statement fraud amounts to greater losses than asset misappropriation.

5.3. Recommendations

The importance of internal control systems cannot be understated in reducing the opportunities of fraud occurrence. Weaknesses of internal control systems create avenues for opportunities to perpetrate fraud. As this study has shown, opportunity is a major factor influencing fraud occurrence. Strengthening and reviewing internal controls regularly as well as implementing the recommendations of the auditor's report is likely to reduce opportunities for fraud occurrence. This also includes staff rotation in order to avoid the possibility of exploring existing operational loopholes and short comings for personal gains.

Rationalization of fraud by perpetrators of fraud also appears to be a significant influencer of fraud occurrence given its p value of 0.000. Well qualified and competent staff should be employed in SACCOs in order to perform their functions effectively. Patronage in employment contributes significantly to fraud occurrence. These staff should be fairly compensated and management should avoid skewed compensation schemes for both bonuses and salaries. Compensation and promotions should instead be based on well documented human resource policies.

5.4 Research Contribution

The primary aim of this paper was to establish the factors that influence fraud occurrence from the perspective of management. So far, most studies have focused on the perception of the auditor on the red flags that are associated with fraud occurrence. This study was informed by the vast insider knowledge possessed by management on the day to day

operations of the firm and the limitations associated with audit. This study was also carried out on a large scale applying census technique and targeting all deposit taking SACCOs in Kenya. This is unlike other studies that have taken up a regional approach most targeting less than 50 SACCOs. In addition, the study carried out a comparative analysis between restricted and unrestricted SACCOs. The comparison of perspectives from the management of the restricted and unrestricted SACCOs would enhance auditors' knowledge on the areas to highlight and give prominence in the course of an audit.

5.5 Research Limitations and Suggestions for Future Research

The major limitation of the study was that it solely relied on the fraud triangle theory in explaining fraud occurrence. The study has revealed that the use of this theory only explains 27.5% of fraud occurrence. This means that other factors not mentioned in the fraud triangle theory can be useful in explaining fraud occurrence. This study suggests other theories to be considered including the cultural transmission theory, the anomie theory amongst other theories. Given the sensitive nature of fraud and the perceived exposure to reputational risk this study suggests that other data collection methods be used to increase response rate and assure respondents of confidentiality. Exclusively relying on questionnaires to collect data was a limitation to this study. Future researchers interested in this topic can use interview guides and secondary data besides questionnaires and the results can be compared to enhance reliability of the information.

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APPENDIX ONE: QUESTIONNAIRE

The study is about the factors affecting fraud occurrence in deposit taking SACCOs in Kenya. You are therefore asked to give your response as honestly as possible.

PART A: GENERAL INFORMATION

1. Gender of the respondent?

Female ☐ Male ☐

2. What is your age bracket?

Below 21 years ( )

21-29 years ( )

30-40 years ( )

Above 40 years ( )

3. How long have you worked in the Sacco?

1 - 5 years ( )

5 - 10 years ( )

11 – 15 years ( )

More than 15 years ( )

4. What is your highest education level?

Primary ☐

Secondary ☐

Tertiary ☐

5. How long has your Sacco been in operation?

1 - 5 years ( )

5 - 10 years ( )

11 – 15 years ( )

More than 15 years ( )

PART B: FACTORS INFLUENCING FRAUD OCCURANCE IN DEPOSIT TAKING SACCOs

(I). FACTORS RELATED TO PRESSURE OR INCENTIVE

How do you rate the following factors in their contribution to affecting fraud occurrence in SACCOs?

	Very High	**High**	**Low**	**Very Low**	**None**

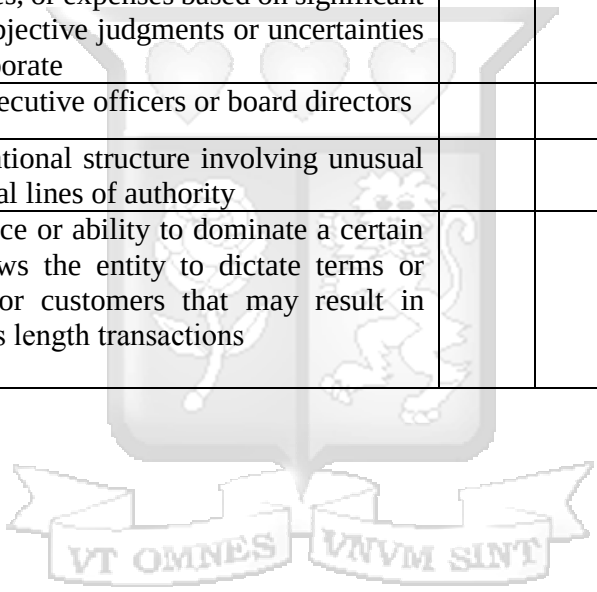
Significant portions of management's compensation, represented by bonuses contingent upon achieving aggressive targets for dividends, operating results, financial position, or cash flow					
Excessive pressure on operating management or personnel to meet financial targets(sales and profitability) exerted by board of directors or chief executive officers					
Rapid growth or unusual profitability, especially compared to that of other companies in the same industry					
Expected trends in SACCO profitability is unrealistic					
Cashflow problems including negative cashflows or inability to generate sufficient cashflows					
Perceived or real adverse effects of reporting poor financial results on significant spending transactions, such as business combinations or contract awards					
Management and/or board directors have personally guaranteed significant debts of the entity					
Operating losses making imminent threat of bankruptcy or liquidation					
Management and/or board directors holding significant financial interests in the entity					
Marginal ability to meet SASRA requirements or debt repayment					
High vulnerability to rapid changes in technology or interest rates					
High degree of competition or market saturation, accompanied by declining margins					
Significant declines in customer demand and increasing business failures in the industry or overall economy					
Need to obtain additional debt or equity financing to stay competitive					
New accounting, statutory, or regulatory requirements					

(II). FACTORS RELATED TO OPPORTUNITY

How do you rate the following factors in their contribution to affecting fraud occurrence in SACCOs?

	Very High	**High**	**Low**	**Very Low**	**None**
Formal or informal restrictions on the auditor that inappropriately limit his access to people or information or					

limit his ability to communicate effectively with the board of directors or the audit committee					
Significant related party transactions not in the ordinary course of business or with related entities are not audited or audited					
Domination of management by a single person or small group in a non-owner managed business without compensating controls					
Ineffective accounting and information systems.					
High turnover rates or employment of ineffective accounting, internal audit, or information technology staff					
The board of directors and its audit commitee are ineffective in their oversight role					
Assets, liabilities, revenues, or expenses based on significant estimates that involve subjective judgments or uncertainties that are difficult to corroborate					
High turnover of chief executive officers or board directors					
Overly complex organizational structure involving unusual legal entities or managerial lines of authority					
A strong financial presence or ability to dominate a certain industry sector that allows the entity to dictate terms or conditions to suppliers or customers that may result in inappropriate or not arm's length transactions					



(III). FACTORS RELATED TO RATIONALIZATION

How do you rate the following factors in their contribution to affecting fraud occurrence in SACCOs?

	Very High	**High**	**Low**	**Very Low**	**None**
Significant, unusual, or highly complex transactions, especially occurring close to year end					
Domineering management behaviour in dealing with the auditor, especially involving attempts to influence the scope of the auditor's work					

Known history of violations of law, policies or procedures against the entity by senior management, or board members leading to fraud					
Ineffective communication, implementation, support, or enforcement of the entity's values or ethical standards by management					
The communication of inappropriate values or ethical standards					
Frequent disputes with the current or predecessor auditor on accounting, auditing, or reporting matters					
Management failure to correct known reportable conditions in internal controls in a timely basis					
Nonfinancial management's excessive participation in the selection of accounting principles or the determination of significant estimates					
A practice used by management of committing to analysts, creditors, and other third parties to achieve aggressive or unrealistic forecasts					
Involving attempts to influence the scope of the auditor's work					

6. What other factors, according to you, influences the occurrences of fraud in deposit taking SACCOs?

……

……

……

PART C: TYPES OF FRAUD OCCURRING IN DEPOSIT-TAKING SACCOs

7. How would you rate the prevalence of the following types of fraud in your SACCO?

Type of Fraud	**Very High**	**High**	**Low**	**Very Low**	**None**
Accounting Fraud					
Asset Misappropriation					
Corruption					
Employee fraud (Insider)					
Employees and Outsiders					

Employees and customers					
Employees and management					

Thank you for your time

APPENDIX TWO: LIST OF UNRESTRICTED AND RESTRICTED LICENSED SACCOS IN KENYA

UNRESTRICTED LICENSED SACCOS

1. 2NK SACCO Society Ltd
2. AFYA SACCO Society Ltd
3. AGRO-CHEM SACCO Society Ltd
4. AINABKOI SACCO Society Ltd
5. ALL CHURCHES SACCO Society Ltd
6. AIRPORTS SACCO Society Ltd

7. AMICA SACCO Society Ltd
8. ARDHI SACCO Society Ltd
9. ASILI SACCO Society Ltd
10. AZIMA SACCO Society Ltd
11. BANDARI SACCO Society Ltd
12. BARAKA SACCO Society Ltd
13. BARATON UNIVERSITY SACCO Society Ltd
14. BIASHARA SACCO Society Ltd
15. BIASHARA TOSHA SACCO Society Ltd
16. BI-HIGH SACCO Society Ltd
17. BINGWA SACCO Society Ltd
18. BORESHA SACCO Society Ltd
19. CAPITAL SACCO Society Ltd
20. CENTENARY SACCO Society Ltd
21. CHAI SACCO Society Ltd
22. CHUNA SACCO Society Ltd
23. COMOCO SACCO Society Ltd
24. COSMOPOLITAN SACCO Society Ltd
25. COUNTY SACCO Society Ltd
26. DAIMA SACCO Society Ltd
27. DHABITI SACCO Society Ltd
28. DIMKES SACCO Society Ltd
29. DUMISHA SACCO Society Ltd
30. ECO-PILLAR SACCO Society Ltd
31. EGERTON SACCO Society Ltd
32. ELGON TEACHERS SACCO Society Ltd
33. ELIMU SACCO Society Ltd
34. ENEA SACCO Society Ltd
35. FARIDI SACCO Society Ltd
36. FARIJI SACCO Society Ltd
37. FORTUNE SACCO Society Ltd

38. FUNDILIMA SACCO Society Ltd
39. GITHUNGURI DAIRY & COMMUNITY Society Ltd
40. GOOD HOPE SACCO Society Ltd
41. GOODWAY SACCO Society Ltd
42. GUSII MWALIMU SACCO Society Ltd
43. HARAMBEE SACCO Society Ltd
44. HAZINA SACCO Society Ltd
45. IG SACCO Society Ltd
46. ILKISONKO SACCO Society Ltd
47. IMARIKA SACCO Society Ltd
48. IMARISHA SACCO Society Ltd
49. IMENTI SACCO Society Ltd
50. JACARANDA SACCO Society Ltd
51. JAMII SACCO Society Ltd
52. JOINAS SACCO Society Ltd
53. KAIMOSI SACCO Society Ltd
54. KATHERA RURAL Society Ltd
55. KENPIPE SACCO Society Ltd
56. KENVERSITY SACCO Society Ltd
57. KENYA ACHIEVAS SACCO Society Ltd
58. KENYA BANKERS SACCO Society Ltd
59. KENYA HIGHLANDS SACCO Society Ltd
60. KENYA POLICE SACCO Society Ltd
61. KIMBILIO DAIMA SACCO Society Ltd
62. KINGDOM SACCO Society Ltd
63. KIPSIGIS EDIS SACCO Society Ltd
64. KITE SACCO Society Ltd
65. KITUI TEACHERS SACCO Society Ltd
66. KMFRI SACCO Society Ltd
67. KOLENGE TEA SACCO Society Ltd
68. KORU SACCO Society Ltd

69. K – PILLAR SACCO Society Ltd

70. K – UNITY SACCO Society Ltd

71. KWETU SACCO Society Ltd

72. LAINISHA SACCO Society Ltd

73. LENGO SACCO Society Ltd

74. MAFANIKIO SACCO Society Ltd

75. MAGADI SACCO Society Ltd

76. MAGEREZA SACCO Society Ltd

77. MAISHA BORA SACCO Society Ltd

78. MENTOR SACCO Society Ltd

79. METROPOLITAN NATIONAL SACCO Society Ltd

80. MMH SACCO Society Ltd

81. MOMBASA PORT SACCO Society Ltd

82. MUDETE TEA GROWERS SACCO Society Ltd

83. MUKI SACCO Society Ltd

84. MWALIMU NATIONAL SACCO Society Ltd

85. MWIETHERI SACCO Society Ltd

86. MWINGI MWALIMU SACCO Society Ltd

87. MWITO SACCO Society Ltd

88. NACICO SACCO Society Ltd

89. NAFAKA SACCO Society Ltd

90. NANDI FARMERS SACCO Society Ltd

91. NATION SACCO Society Ltd

92. NAWIRI SACCO Society Ltd

93. NDEGE CHAI SACCO Society Ltd

94. NDOSHA SACCO Society Ltd

95. NG'ARISHA SACCO Society Ltd

96. NOBLE SACCO Society Ltd

97. NRS SACCO Society Ltd

98. NSSF SACCO Society Ltd

99. NUFAIKA SACCO Society Ltd

100. NYALA VISION SACCO Society Ltd

101. NYAMBENE ARIMI SACCO Society Ltd

102. NYAMIRA TEA FARMERS SACCO Society Ltd

103. NYATI SACCO Society Ltd

104. NEW FORTIS SACCO Society Ltd

105. OLLIN SACCO Society Ltd

106. PATNAS SACCO Society Ltd

107. PRIME TIME SACCO Society Ltd

108. PUAN SACCO Society Ltd

109. QWETU SACCO Society Ltd

110. RACHUONYO TEACHERS SACCO Society Ltd

111. SAFARICOM SACCO Society Ltd

112. SHERIA SACCO Society Ltd

113. SHIRIKA SACCO Society Ltd

114. SIMBA CHAI SACCO Society Ltd

115. SIRAJI SACCO Society Ltd

116. SKYLINE SACCO Society Ltd

117. SMART CHAMPIONS SACCO Society Ltd

118. SMART LIFE SACCO Society Ltd

119. SOLUTION SACCO Society Ltd

120. SOTICO SACCO Society Ltd

121. SOUTHERN STAR SACCO Society Ltd

122. SHOPPERS SACCO Society Ltd

123. STAKE KENYA SACCO Society Ltd

124. STIMA SACCO Society Ltd

125. SUBA TEACHERS SACCO Society Ltd

126. SUKARI SACCO Society Ltd

127. SUPA SACCO Society Ltd

128. TABASAMU SACCO Society Ltd

129. TAI SACCO Society Ltd

130. TAIFA SACCO Society Ltd

131. TAQWA SACCO Society Ltd

132. TEMBO SACCO Society Ltd

133. TENHOS SACCO Society Ltd

134. THAMANI SACCO Society Ltd

135. TRANSCOUNTIES SACCO Society Ltd

136. TRANS NATION SACCO Society Ltd

137. TIMES U SACCO Society Ltd

138. TOWER SACCO Society Ltd

139. TRANS – ELITE COUNTY SACCO Society Ltd

140. TRANSNATIONAL TIMES SACCO Society Ltd

141. UFANISI SACCO Society Ltd

142. UKRISTO NA UFANISI WA ANGLICANA SACCO Society Ltd

143. UKULIMA SACCO Society Ltd

144. UNAITAS SACCO Society Ltd

145. UNI–COUNTY SACCO Society Ltd

146. UNITED NATIONS SACCO Society Ltd

147. UNISON SACCO Society Ltd

148. UNIVERSAL TRADERS SACCO Society Ltd

149. VIHIGA COUNTY FARMERS SACCO Society Ltd

150. VIKTAS SACCO Society Ltd

151. VISION POINT SACCO Society Ltd

152. VISION AFRICA SACCO Society Ltd

153. WAKENYA PAMOJA SACCO Society Ltd

154. WAKULIMA COMMERCIAL SACCO Society Ltd

155. WANA – ANGA SACCO Society Ltd

156. WANANCHI SACCO Society Ltd

157. WANANDEGE SACCO Society Ltd

158. WASHA SACCO Society Ltd

159. WAUMINI SACCO Society Ltd

160. WEVARSITY SACCO Society Ltd

161. WINAS SACCO Society Ltd

162. YETU SACCO Society Ltd

163. JITEGEMEE SACCO Society Ltd

164. NANDI HEKIMA SACCO Society Ltd

RESTRICTED LICENSED SACCOS

1. GOOD FAITH SACCO Society Ltd

2. JUMUIKA SACCO Society Ltd

3. KENYA MIDLAND SACCO Society Ltd

4. LAMU TEACHERS SACCO Society Ltd

5. MILIKI SACCO Society Ltd

6. ORIENT SACCO Society Ltd

7. TARAJI SACCO Society Ltd Society Ltd

8. TELEPOST SACCO Society Ltd Society Ltd

SASRA (2018)