FRAUD RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF INSURANCE COMPANIES IN KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

2019

DECLARATION

I, the undersigned, declare that this research project is my original work and has not

been presented for the award of a degree, diploma or certificate in any other

university whatsoever.

Signature.. Date...............................

Jacqueline Wambui Ndichu

D63/75651/2012

This research project has been submitted for examinations with my approval as the

university supervisor, moderator, Lecturer, School of Business, University of Nairobi.

Signed.. Date..............................

Dr. Kennedy Okiro

ACKNOWLEDGEMENT

DEDICATION

This research project is dedicated to my parents, Mr. Jeff Kariuki and Mrs. Margaret Ndichu, for their relentless support and encouragement throughout my study period. May God bless you both abundantly.

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ABBREVIATION AND ACRONYMS

ACFE   Association of Certified Fraud Examiners

BFID   Banking Fraud Investigations Department

CIC   Cooperative Insurance Company

CB   Commercial Banks

EY   Ernst and Young

FRM   Fraud Risk Management

FP   Financial Performance

GDP   Gross Domestic Product

ICT   Information Communication Technology

IFU   Insurance Fraud Unit

IRA   Insurance Regulatory Authority

KPA   Kenya Ports Authority

PWC   Price Waterhouse Coopers

ROA   Return on Assets

ROE   Return on Equity

SPSS   Statistical Package for Social Sciences

US$ United States Dollar

ABSTRACT

This investigation sought to verify the link between FRM approaches and the financial performance of the 55 insurance establishments in Kenya. This investigation was anchored on a descriptive study design approach. Population of study consisted of the 55 insurance companies in Kenya. The investigation gathered quantitative data from both primary and secondary sources. Diagnostic tests were conducted on the information gathered. Tests to be conducted included heteroscedasticity, multicollinearity and linearity tests. Descriptive analysis methods including mean, and standard deviation were utilized to analyze the population's demography, organization and the FRM approaches. To verify the link between FRM approaches and financial performance within licensed insurance companies, correlational analysis method was applied whereas multiple linear regression analysis was employed to assess how each of the dependent variable links with ROA. The model summary points out that the coefficient of determination R square to be 0.259. This meant that 25.9% of the variation in FRM was due to the predictor variables captured in the study. In addition, 74.1% of the variation in the datasets was a result of some of the variables that also influenced fraud risk management but were not captured in the study. R is the coefficient correlation was utilized to explicate the link between the investigation variables, therefore the estimate of 0.508 showed there was a moderate link between the investigation variable. Findings from the Anova model shows that the P value projected was 0.033, indicating that the analytical model was fit to predict how the dependent variable, ROA, is determined by preventive fraud risk management, detective fraud risk management and responsive FRM approaches of insurance establishments in Kenya. The investigation proposes that insurance establishments ought to increase their mechanisms of internal control as well as embrace fraud risk management practices to secure their revenue from fraudulent practices that may result from employee behavior and false audit reports. In addition, the study recommends that efforts ought to be placed by insurance establishments to enhance early detection of fraudulent practices and curtail them before they negatively influence the performance of the insurance establishments. The investigation also proposes that insurance establishments ought to integrate the use of fraud detecting technology to carefully trace the occurrence of fraudulent practices that incur losses to the company. The technology can leverage the company's losses through the formulation of tech solutions that can reduce the chances of the occurrence of fraud. Technology can provide easy means of regulating the incidences of fraud and thereby boosting the financial performance of the insurance establishments.

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Every establishment is exposed to fraud risks. Fraudulent activities have resulted in the collapse of whole establishment, huge losses of investment, weighty legal costs, sentencing of major individuals, and loss of reliability in the capital markets. Exposed dishonest behavior by major officers has undesirably impinged on the names, trademarks, and images of many establishments globally. As per the PKF Report (2016), the financial implication of Fraud; the real financial cost of fraud and inaccuracy average losses were 5.47% of costs (PKF Report, 2016). In addition, the Association of Certified Fraud Examiners (ACFE) (2014), annual fraud survey report, revealed that a normal corporation loses 5% of its sales revenues to fraud every single year. The Banking and Financial Services sector recorded the highest number of fraudulent instances at 18.1%.

The Fraud Deterrence theory (FDT), as well as the Fraud triangle theory (FTT), advanced by Cressey in 1971 states that there exist three aspects that allow individuals to carry out fraud. They comprise: Perceived (pressure, opportunity as well as rationalization). These three aspects constitute a triangle. This theory is pertinent to an investigation as it means that misconduct may be reduced significantly if the pressures, loopholes as well as attitudes are addressed by the organizations. Fraud management lifecycle theory (FMLT) by Wesley (2014) is "a sequence of periods in system and practical undertaking which an organism goes through between continuous relapses of a stated initial stage" This theory is important as it clearly points out the phases of FRM in sequence. Deterrence theory by Beccaria (1738–94) and Bentham (1748–1832) argues that individuals are driven essentially to get enjoyment and avoid agony.

The insurance industry in Kenya poses opportunities for fraudulent individuals to get away with huge sums of cash yearly without any repercussions. The Kenya Financial Sector suffers over KES 3.8 billion yearly (Institute of Loss Adjusters, 2012). Mugwe (2014) reports that Kenyan banks were victims of more than half of the KES 4.1 billion (US$ 48.3 million). Fraud reported by East African banks in 2011. The high rates of fraud were attributed to technological advancements which made its easier for fraudulent activities to go undetected. Statistics from the Banking Fraud Investigations Department (BFID) also showed that 525 instances of fraud caused various financial institutions to incur loses of US$ 8.5 million during the first quarter of 2014.

A survey by Deloitte 2013: Financial Crimes Survey Report, reported that there was an increase in fraud in East Africa. The report attributed the increase to failure by the financial institutions to absorb technological innovations and novel products. These failures caused the Kenyan Financial Institutions to lose more than US$ 10 million annually. It was therefore imperative for organizations to mitigate against fraud by employing fraud risk management practices.

As stated by Adeyemo (2015), fraud reduces an organization's assets and causes an upsurge in its obligations. In the banking sector, cases of fraud cause bring about doubts amongst the masses regarding the reliability of the banking sector and eventually results in banking failures.

1.1.1 Fraud Risk Management Practices

Fraud risk management (FRM) approaches are usually defined as FRM setting, risk control, mitigation, monitoring as well as internal control procedures among others

(Biegelman & Bartow, 2013). Kanu and Okorafor (2014) stated that fraud RMPs involve businesses' recognizing the need of controlling all risks and their related aspects including risks that are well known and unknown to an organization. Fraud management risk practices is referred to as controls instituted by a firm for purposes of deterring, detecting and investigating fraud on transactions handling condition without risking the advantages of mechanization regarding effectiveness, opportuneness and client benefit (Malaysia Fraud Survey Report 2009).

FRM procedures hence could generally be classified into preventive, detective as well as responsive (Chiezey & Onu, 2013). Preventive FRM procedures comprise measures that minimize misconduct and dishonesty from happening from the onset. Such practices include; - establishment of strong internal controls, conducting a fraud risk assessment, training and establishment of guidelines besides associated ethics, due diligence and communication between staff and third party. These measures seek to lessen drive and hamper openings for fraudsters to give good reason for their conduct. As these practices might not prevent every likely offender, establishments ought not to guarantee that measures that will underline incidences of fraud are instituted appropriately.

The second practice is fraud detection aimed at exposing misconduct once it happens (Omasete, 2014). This practice ought to embroil utilization of investigative as well as other measures to show up irregularities, and the establishment of recording practices that support statement of alleged misconducts. Key aspects of a thorough fraud detection mechanism would comprise; - omission recording, data withdrawal, trend investigation as well as ongoing risk evaluation. The third practice is responsive practices. These seek to

take corrective measures as well as alleviate the loss due to misconduct. In every case where misconduct was discovered, line management ought to have reviewed the appropriateness of the existing internal control situation (especially those that directly influenced the occurrence of misconduct) to reflect the necessity for enhancements.

1.1.2 Financial Performance

Financial performance (FP) is the monetary measure of an establishment's policies, regulations and modality of operation is referred to as FP. It points out the efficiency an establishment was in with its resources to achieve its objectives. FP is often referred to as the ability to secure revenues in relation to a need, to constantly maintain or increase its productive processes, produce anticipated results and to obtain a surplus.

The most used metrics of FP include return on assets (ROA) and return on equity (ROE). ROA signifies the capability of an insurance establishment to produce revenues from its assets. It points out the efficiency with which the assets of an establishment are employed to produce revenues. As stated by Crosson and Powers (2016) a surging tendency on ROA shows that the FP of the establishment is increasing. Contrariwise, a reducing tendency implies that FP is declining. ROE evaluates the rate of return on the stakeholders' equity put in the establishment. An establishment with high ROE is more expected to generate cash within. Hence, greater ROE is better for the establishment regarding FP. Khrawish (2011) elucidated that ROE is the ratio of Net Income after Taxes divided by Total Equity Capital. It therefore, points out the efficiency with which a bank management is utilizing its owners' capital.

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1.1.3 Fraud Risk Management Practices and Financial Performance

Fraud risk management approaches are adopted with the objective of minimizing loss related to fraud. Githecha (2014) noted that adoption of technology had the strongest positive Pearson correlation coefficient impinge on FP among commercial banks (CB). In addition, governance as well as regulation was positively correlated to FP of CB as evaluated by ROA. A study by Ernst and Young (2014) revealed that adopting fraud awareness training by an organization led to a 50% drop in fraud cases.

Kuria and Moronge (2013) in their investigation on the bearing of FRM approaches on growth of insurance establishments in Kenya also concluded that technological advancements and governance when applied as control mechanisms greatly determined the development of insurance establishments. The outcomes of their investigation also pointed out that though regulating the industry is a noble goal, as far as growth of the industry is concerned, it may not be a major consideration. There are other underlying factors that may come in to play as far as growth of insurance firms is concerned. It was clear from their study that regulation of the insurance firms had no link with FRM approaches in the industry.

1.1.4 Insurance Industry in Kenya

The Kenyan insurance sector is generally overseen by the Insurance Regulatory Authority (IRA) and managed by the laws and principles provided in the constitution of Kenya under the Insurance Act, Cap 487 housed under the Ministry of Finance. The controller of insurance business is therefore in charge of defining the approaches that govern the activity of all insurance providers in Kenya and is the body charged with the

duty of accrediting and directing all the actors in the insurance sector.

Based on the Insurance industry report (IRA 2017), there are 55 total number of insurers, 16 composite insurers, 3 re-insurance companies 21 general business insurers, 21 loss adjusters, intermediaries were: 24 Medical Insurance Providers. 2 claims settling agents 3931 insurance agents, 161 licensed insurance brokers 193 service providers i.e. adjusters and assessors, and 26 loss investigators. Kenya insurance establishments had encountered extraordinary upsurge in misconduct in the last few years. Among the 55 insurers, 6 are recorded at the NSE namely: Jubilee Holdings Ltd, Sanlam Ltd, CIC Insurance Group Ltd, Britam Ltd, Liberty Kenya Holdings Ltd and Kenya Re-Insurance Corporation Ltd.

As indicated in the Insurance Industry report by IRA (2016), the insurance industry in Kenya was among the fast advancing areas in Africa with a penetration of 3.4% of the GDP for general protection and 1.9% for Life protection. The aggregate premium earned in the year 2017 was KES 86 billion contrasted with KES 72 billion in the year 2014. The motor insurance premium over the same period was KES 31.74 Billion implying that it forms one- third of the total premium earned in the industry.

1.2 Research Problem

Over the years, the insurance sector in Kenya has continued to be rocked with numerous insurance fraud cases, mainly on fraudulent claims. According to data from the IRA, twenty-six (26) fraud cases were reported to the Insurance Fraud Unit (IFU) in the last quarter of 2018. In addition, more than half of the fraud cases reported by insurance companies had been committed by the insurance agents, who are normally paid on

commission by the insurance companies. The implication of these fraudulent activities has placed insurance companies at a disadvantaged position from the ballooning claims loss ratios which have gone ahead to impinge on the annual FP of the insurance establishments.

The actual cost of misconduct and average losses as per the PKF report on the Financial Cost of Fraud 2016 were 5.47% of spending. Also, as per the Association of Certified Fraud Examiners (ACFE) (2014), annual fraud survey report, an establishment suffer 5 % revenue loss to misconduct annually. The Banking and Financial Services Sector had the most misconduct instances at 18.1%.

Fraud costs the Kenya Financial Sector more than KES 3.8 billion yearly (Institute of Loss Adjusters, 2012). Mugwe (2014) reports that Kenyan banks suffered over half the KES 4.1 billion (US $ 48.3 million) fraud in East African banks in 2011 as technology facilitated crimes. Mugwe states that a single bank lost KES 2.72 billion (US $ 32.1 million) due to tampering with data. Cybercriminals tried to steal not less than KES 6.375 billion (US $ 75 million) from customer bank accounts and high-balance business in the first half of 2012. In addition frauds in Kenya stole not less that US $ 9.4 million from CB in the first half of 2014 in plots that used loopholes in banking system and included conspiracy with bank personnel (BFID, 2014).

International investigations, Yousfi (2015) Risk Management approaches and FP of Islamic Banks in Jordan, Nnam and Eneh (2018) reviewed the risk assessment practices of some selected firms in Nigeria to ascertain the presence and therefore the impact of this practice. Hussaini, Bakar and Yusuf (2018) researched on the bearing of FRM, risk

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culture, on FP of the banking industry in Nigeria. Soomro *et al* (2019) verified the identity of FRM practices in the e-tail industry. Studies done in Kenya include: Omasete (2014) sought to ascertain the bearing of FRM on the financial well-being of insurance companies in Kenya. Kamau and Njeru (2016) researched on the bearing of liquidity risk on the FP of insurance firms quoted at the NSE. Gathua (2018) sought to verify the effects of FRM practices on net incurred medical claims in Kenyan insurance industry. Kiprono and Ng'ang'a (2018) sought to ascertain the manner in which FRM practices impact the performance of the Kenya Ports Authority (KPA).

The studies above did not consider the association between FRM approaches and FP of licensed insurance establishments. Studies done on FRM approaches had focused on the fraud management practices without linking these to financial performance with regard to CB. All the above therefore, brought about the desire to study and find out the link between FRM approaches and FP of licensed insurance establishments in Kenya. This investigation hence, sought to fill the gap by answering the following research question: "What is the connection between fraud risk management practices and the financial performance of licensed insurance establishments in Kenya?''

1.3 Objective of the Study

To verify the link between FRM practices and the financial performance of the 55 licensed insurance establishments in Kenya.

1.4 Value of the Study

This study's findings would benefit the policy makers in the Kenyan insurance industry by providing them with insights on the direction of FRM practices. It would also serve as

a point of reference for the risk managers and risk committee board members. Insurance companies that embrace FRM tactical approaches, for instance, Enterprise Risk management (ERM) can better comprehend the overall risk present in their various business undertakings and offer them a more unbiased basis for apportionment of resources, hence enhancing capital efficiency alongside ROE.

The outcomes of this investigation would substantially add to the existing works on FRM practices. As this is a discipline bearing huge prospects for further growth, it would appeal to more academic investigation and the results would aid in offering a point of reference for insurance investigators.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This part evaluated empirical works on the link between insurance FRM practices on FP. The part starts with a theoretical framework, then by Determinants of FP, the empirical studies of FRM practices and conceptual framework.

2.2 Theoretical Review

The debate on FRM practices and its effect on the performance of a firm was discussed in light of two theories in the subject area namely; Fraud Deterrence theory (FDT), Fraud management lifecycle theory (FMLT) as well as fraud triangle theory (FTT).

2.2.1 The Fraud Triangle Theory

This paradigm was advanced by Cressey in 1971. He stated that there exist three aspects that allow individuals to perpetrate fraud. Namely: Perceived Pressure, Opportunity and Rationalization, all of which form a triangle. As per the paradigm, a fraud perpetrator is faced by apparent pressure related to work or individual circumstances. The pressures then provoke the person to undertake fraudulent deals to satisfy the inherent pressure. The fraud perpetrator then ascertains that their environment allows them to commit fraud without getting caught. The loopholes to commit fraud present themselves through having weak internal controls as well as having non-severe penalties if fraud is detected.

The third fraud driver is the ability of the fraud perpetrators to discover mechanisms to justify their activities as tolerable. Rationalization/attitude is the way individuals regard their work, performance as well as input within their workplaces. Hence, they assign a value that they ought to obtain from the employers for being efficient or valuable

(Chiezey & Onu, 2013). This paradigm is pertinent to this investigation as it points out that dishonesty can be reduced significantly if the driving forces, chances and attitudes of people are handled by the organizations for which they work.

2.2.2 Fraud Management Lifecycle Theory

As stated by Wesley (2014), fraud management lifecycle (FML) is a system life cycle. As stated by Webster's dictionary, it is a sequence of steps in process and functional activity that an entity goes through between sequential repetitions of a stated primary stage (1997, 1976, &1941) and similarly called a "network"linked chain or system" (1997, 1976, & 1941).

FML involves eight steps; deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution. This paradigm proposes that the final step, arraignment in a court of law, signifies the accomplishments and letdowns in the FML. There are letdowns because the misconduct was unnoticed and achievements because the misconduct got noticed, a perpetrator was known, arrested, and prosecuted. This step also involves the recovery of assets, compensation, and sentencing.

Githecha (2014) notes that the theory was important as it clearly points out the stages of FRM in sequence. In addition, the paradigm points out the practices of an establishment ought to be established in a manner to effectively manage fraud. However, the paradigm failed to elucidate the fraud drivers within CB's. This paradigm assumes equal legal, cultural as well as technological applications in managing fraud. This paradigm failed to elucidate FRM approaches in a setting where such mechanisms are unsuccessful.

2.2.3 Deterrence Theory

This theory advances the notion that individuals will avoid committing crimes out of the fear of legal punishment. The paradigm originates from the practical philosophers Beccaria (1738–94) and Bentham (1748–1832) who held that individuals are essentially driven to gain pleasure and evade suffering. Potential fraud perpetrators can be deterred from committing crimes by increasing the pain and penalties associated with committing fraud. Particularly, potential perpetrators can be discouraged by making legal penalties more austere, increasing the conviction rates for those who perpetrate fraud by the courts, and carrying out swift sentencing procedures (Von Hirsch et al. 1999).

The theory was important because it stated that fraudulent individuals can be discouraged from perpetrating crime by instituting firm penalties and austerity measures such as severe punishments which can be implemented through laws and CBK rules. However, some suicidal or psychotic opponents may not be deterred by either form of deterrence. Moreover, escalation of perceived threat can make it easier for certain measures to be inflicted on CB by its regulator resulting in higher taxes.

2.3 Determinants of Financial Performance

CAMELS rating approach was advanced by the Federal officials in the United States (US) to assess the general state of banks in 1979. Camel is an abbreviation of five aspect metrics of performance primarily: Asset quality, Capital adequacy, Earnings quality, Administration quality and liquidity (Siems & Barr, 1998).

2.3.1 Capital Adequacy

It refers to the amount of equity that is considered adequate to absorb any shockwaves that a bank may experience (Nwankwo, 2016). The bank's capital structure is greatly regulated as it is a key parameter in decreasing the number of bank failures and losses absorbed by stakeholders. As stated by Hardy and Patti (2001), capital adequacy is a widely accepted parameter applied in the evaluation of a bank's overall performance. The capital adequacy measurement ratio was embraced by the Nigerian banking industry in 1990. It is the ratio of a bank's capital (i.e. Tier 1 and Tier 2 capital) against its weighted assets. In Kenya, banking institutions are expected to comply with the conditions specified by the CBK.

2.3.2 Asset Quality

It is the extent of financial strength and risk in the assets of a bank which comprises of loans and investment. The financial health of CBs deteriorates with successive erosion in the value of their assets. The most common risk facing banking institutions is the risk of non-performing loans (Dang, 2011). A low ratio indicates that the bank's performance is favorable whereas a high ratio indicates an adverse position. (Sangmi and Nazir, 2010). A careful investigation of the trends in the asset quality offers a useful means of identifying trends in asset quality as well as those that are likely to cause difficulties to the banks (Ailkeli, 2008).

2.3.3 Management Quality

Management quality is key in ascertaining the bank's future. Management is knowledgeable about the intricacies connected to a bank's processes, such as ensuring

loans' quality and the bank's profitability. Sangmi and Nazir, (2010) noted that management's performance is normally qualitative and could be determined using subjective assessment of administration methods, organizational culture, as well as control approaches. However, management quality could also be identified through the analysis of various financial ratios. Incidentally, the quality of management also determines to a large extent, the level of operating expenses and subsequently, the FP of CBs (Athanasoglou et al. 2005). Among the ratios adopted to ascertain management quality is operating profit to income ratio.

2.3.4 Liquidity

This refers to a bank's capacity to fulfil its obligations as and when they fall due. As stated by Dang (2011), sufficient liquidity levels are positively linked to a bank's profitability. A strong liquidity position improves trust in the general financial setup hence, it is important that banks maintain adequate liquid assets to meet their debts. IIhomovich (2009) used cash to deposit ratio to determine liquidity levels of Malaysian banks. Other ratios employed to evaluate liquidity include the liquid assets to total assets ratio and loans to deposits ratios. However, the investigation undertaken in China and Malaysia pointed out that liquidity levels of banks have no link with the bank's performance (Said & Tumin, 2011).

2.4 Empirical Review

Yousfi (2015) Risk Management Approaches and FP of Islamic Banks in Jordan. The investigation's variables include operational risk (efficiency, income and cost), liquidity risk (liquidity, capital), credit risk (debt and risk) as well as market risks (interest rates,

inflation as well as financial crunch) as explanatory variables whereas ROA and ROE, were employed as dependent variables between the years 1998 and 2012. The pooled least square approach having fixed bearing is utilized to examine as well as measure the investigation hypotheses. The outcomes ascertained that credit, liquidity and operational risk control approaches bear detrimental and substantial statistical influence on the performance of IBs, and these banks similarly failed to control these risks. The investigator suggests that IBs should institute a single establishment that should be charged with the role of oversight and monitoring compliance regarding shariah doctrines. In addition, administrations ought to accommodate researchers for further financial novelties that conform to Shariah laws.

Nnam and Eneh (2018) reviewed the risk evaluation approaches of certain Nigerian establishments to ascertain existence and hence the impact they had on financial performance. The population entailed establishments recorded on the stock exchange that are reviewed by the Big Four (KPMG, PWC, EY and Deloitte). Selection was through judgment sampling embroiling two top executives and four internal control personnel. Data gathering was through questionnaire with answer choices progressed to five Likert scales. The questionnaire questions encompassed risk assessment as well as fraud incidences within establishments. Logistic regression was utilized to measure the hypothesis and the outcomes pointed towards a positive and substantial link between risk evaluation and fraud amongst the sampled establishments in Nigeria. The research, therefore, recommended that management should ensure that adequate measures are established to enhance compliance with management standards, focused attention is re-

directed towards the selection of board members and an effective internal audit department is set up.

Hussaini, Bakar and Yusuf (2018) investigated the bearing of FRM, risk culture, on the FP of the Banking Industry in Nigeria. The investigation aimed to review the screening, editing as well as preparation processes of primary data sourced, multivariate analysis concerning the link between FRM and risk culture on bank performance. The investigation employed survey approach and disseminated 417 questionnaires. The primary data refinements were undertaken to meet the multivariate assessment assumptions, hence, the present investigation reviewed omitted values, collinearity test, regularity test, common method variance as well as measure of nonresponse partiality using SPSS V23. The outcomes have pointed out that the material met the assumptions of multivariate analysis that show the meeting of terms for more multivariate assessment.

Soomro, Ahmed, Shah and Khoumbati (2019) investigated the identity of FRM practices in e-tail businesses. The investigation adopted a systematic literature review method with literature being considered based on pre-set inclusion benchmarks. The investigators integrated the current research to examine the effect of FRM in e-tail businesses. The investigation established that there were diverse studies carried out to determine the effect of FRM on the financial performance of organizations in the e-tail space. The outcomes similarly pointed out that technological advancements were responsible for the perpetration of fraud as well as for the identification and detection of the fraud. Recommendations from the study required the e-tailers to address this concern as a management problem over and above instituting technological advancements.

Omasete (2014) examined the bearing of risk management on the FP of Kenyan insurance establishments. The investigation employed exploratory research design and a target population of 55 registered and licensed Kenyan insurance establishments. The investigation adopted both primary and secondary material. Primary material was sourced by questionnaires disseminated to the 55 insurance establishments. Secondary data was sourced through desk research approach from available reports and information from financial accounts kept by IRA between the years 2008 and 2012. Qualitative data was analyzed by content analysis whereas quantitative data utilized SPSS. The investigation pointed out that Kenyan insurance establishments in their undertakings had employed RMPs and these had a large impact on their FP. Identification of risk was established to be substantial in impinging on FP, followed closely by mitigation, management policies implementation and monitoring as well as assessment. The investigation also recommended that the Kenyan insurance establishments needed to embrace a multidimensional strategy to manage risk in a bid to obtain higher benefits from their risk control undertakings.

Kamau and Njeru (2016) researched on the bearing of liquidity risk on FP of insurance providers registered at the NSE. The reviewed risks embroiled operational, market as well as credit risks. The six registered insurance establishments formed the target population between the years 2012 and 2015. The investigation utilized a descriptive investigation design. These establishments' financial reports were examined, and analytical reviews were carried out on the ROE as well as net earnings for that period. The review indicated that market, operational and credit risks posed adverse effects on

the FP of these establishments. The investigator suggested that mechanisms ought to be established to evade these risks for the establishments to record positive financial performance.

Gathua (2018) sought to establish the bearing of FRM practices on net incurred medical claims in Kenyan insurance industry. The investigation utilized descriptive investigation design in the identification of the forms of FRM practices. Primary and secondary material were both utilized in the investigation. Primary material was sourced by questionnaires. Secondary material was sourced using data collection sheets. Secondary data was collected on net incurred medical claims. Secondary data was sourced between the years 2008 and 2017. The results were analyzed by both inferential and descriptive statistics. Descriptive statistics encompassed the utilization of standard deviation and mean whereas inferential statistics encompassed utilization of regression analysis. The outcomes were presented by graphs, pie charts and frequency distribution tables. Descriptive statistics indicated that some of the financial risks impacted financial outcomes by deviating from the projected outcomes. The investigation concluded that the types of risk faced by the medical insurance providers substantially impacted their net incurred medical claims. Some of the financial risks had an impact on the financial outcomes by deviating from those projected. RMPs reported a substantial influence on net incurred medical claims. The investigation proposes that the senior management ought to effectively address the financial, reputational, translation and operational risks faced.

Kiprono and Ng'ang'a (2018) sought to verify the manner FRM practices impacted KPA's performance. The investigation aimed at ascertaining the bearing of internal

controls, ICT use, personnel management as well as misconduct reporting mechanisms on the performance of KPA. The investigation was hinged on the following theories; FTT, FMLT, as well as FDT. The investigation utilized descriptive research designs. The target population comprised 242 KPA's management personnel. Stratified random sampling was adopted in drawing sample size of 73 constituting 30 per cent of the entire investigation population. The investigation adopted primary and secondary material. Primary material was sourced by way of a semi-structured questionnaire disseminated to research participants whereas secondary material was sourced from the establishment's financial reports and accounts. Analysis of data was by inferential and descriptive statistics with SPSS. Results were presented with tables, percentages, frequencies, means and standard deviation. The investigation proposes that the KPA's administration ought to enhance its internal controls to substantially improve its FP.

2.5 Conceptual Framework

The investigation's variables were presented in figure 2.1. They indicate that there is a relationship between the study variables. The predictor variable was represented by fraud prevention, fraud detection and fraud response while the dependent variable was represented by financial performance as shown in figure 2.1 below.

Independent Variable   **Dependent Variable**

FRM Practices	Financial Performance
Fraud detection	
Fraud response	(Return of Assets)
Fraud prevention	
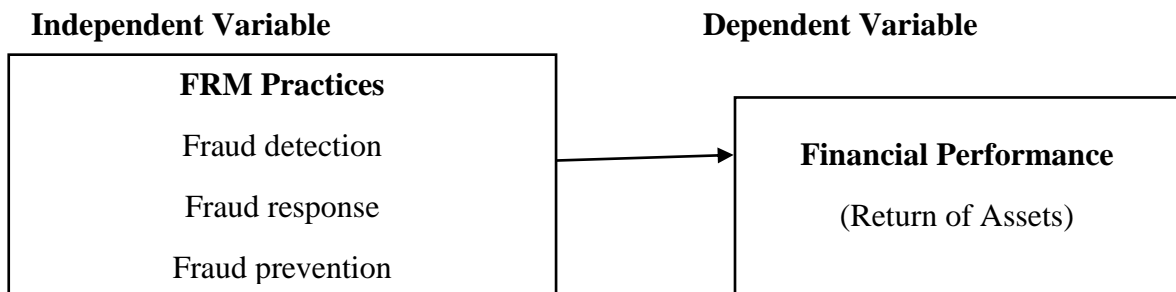
Figure 2.1: Conceptual Framework

2.6 Summary of Literature and Research Gap

Writings on FRM and financial performance have been tackled under FDT, FMLT and FTT. Empirical review on this topical area include: Yousfi (2015) on RMPs and FP of IBs in Jordan. Nnam and Eneh (2018) reviewed the RMPs of selected insurance establishments in Nigeria; Hussaini, Bakar and Yusuf (2018) investigated the bearing of FRM risk culture on the FP of banking institutions in Nigeria; Soomro, Ahmed, Shah and Khoumbati (2019) investigated the identity of FRM practices in the e-tail sector; Omasete (2014) sought to establish the bearing of RMPs on FP of in Kenyan insurance establishments; Kamau and Njeru (2016) researched on the bearing of liquidity risk on FP of insurance firms quoted at the NSE; Gathua (2018) sought to establish the effects of fraud RMPs on net incurred medical claims in Kenyan insurance industry; Kiprono and Ng'ang'a (2018) sought to verify the manner in which FRM practices on the KPA's performance.

As it can be noted, there is no investigation that has been conducted on the link between FRM approaches and FP of insurance establishments in Kenya. A lot of studies focused on FRM practices without linking them to the FP of insurance establishments in Kenya. Thus, the present investigation seeks to bridge the gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This part submits the outline of this investigation's approach that was adopted; from data amassing to data analysis and presentation. This section captures the following information; research design, target population, sampling, data collection and finally data analysis.

3.2 Research Design

A research design refers to the structure adopted by a researcher in relation to the assessment targeted at seeking answers to the investigation objectives (Lewis et al., 2012). They further cite that the investigation design ought to take into consideration the source from which the investigation purposes to collect data and the limitations such as money, time, ethical issues and access to data. Conversely, Mugenda and Mugenda (2009) stated that an investigation design should include a structure of the investigation to help in representing of outcomes in an understandable form. This investigation was anchored on a descriptive investigation design approach. Besides, According to McBurney and White (2009), descriptive investigation design describes the state of affairs as they appear on the ground. The design identifies every phenomenon in relation to what, when, who and how it appeared in the investigation. Descriptive research design also enhances validity, reliability and generalizability of the research outcomes.

3.3 Population of the Study

It is the persons or cases or objects upon which assessment was undertaken (Sekaran & Bougie, 2009). A population must entail common observable traits and grant each element a probability that is equal of making it into the final sample. The population of investigation consist of the 55 insurance establishments in Kenya.

3.4 Data Collection

The investigation gathered quantitative data from both primary and secondary sources. The investigation utilized primary material from internal audit and Risk Officers or an equivalent in the 55 licensed insurance firms Kenya. These target respondents are deemed to be well versed with insurance fraud management practices adopted in their organizations. The data instrument for data gathering in this investigation was a questionnaire as a result of the favorable circumstances it had for the research including, saving time, enhancement of privacy and for being the best primary data source. The researcher set up a questionnaire with closed ended questions. The purpose of the closed ended questions is to offer consistency in responding to the inquiries.

3.5 Diagnostic Test

Diagnostic tests were conducted on the information gathered. Tests to be conducted included heteroscedasticity, multicollinearity and linearity tests. Heteroscedasticity occurs when the standard errors of variable vary widely. This was checked via scatter plot. Scatter Plot was used to display the data values of the variables. Normal distribution of the variable shows con shaped scatter plot, otherwise, data is concentrated on one side

of the plot. Dataset distributed on the extreme left or extreme of the scatter plot shows heteroscedasticity.

Multicollinearity identifies the intercorrelated predictors in a data set. Multicollinearity was detected via Variance Inflation Factor and Tolerance. Variance Inflation Factor (VIF) evaluates the extent to which one variable is explained by another variable. When VIF=1 shows the variable are not linked, 1<VIF<5 shows the predictors are fairly linked, VIF>5 to 10 shows highly linked. VIF of the variable shows that the predictor variable is fairly correlated since the values fall between 1<VIF<5. Tolerance Level <0.10 reflects multicollinearity. As per the tolerance levels, all the dependent variables (inflation rate, interest rate, GDP rate, T-bill rate and foreign exchange rate) have Tolerance levels greater than 0.10, hence, no multicollinearity. Linearity test was employed to measure the link between the dependent factor and the predictor variable. Linearity was detected via P-P Plot.

3.6 Data Analysis

Analysis of quantitative data obtained from the questionnaires was done on Statistical Package for Social Sciences (SPSS). Descriptive analysis methods including mean, and standard deviation utilized to assess the demography of the population, organization and the FRM techniques.

To measure the FP of the insurance establishments, the investigation evaluated the change in return on assets. To verify the link between FRM and FP within licensed

insurance establishments, correlational analysis method was applied whereas regression analysis was employed to analyze the link between the categorical variables. The multiple regression model shown below guided the investigation; The multiple linear regression analysis was used to measure how every dependent variable links with ROA. The regression analysis took the form below:

$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$ Where:

Y= financial performance was measured via Return on Assets of licensed insurance firms

α = Constant variables that affect financial performance of insurance firms.

β_1, β_2 and β_3 are Parameters which are the coefficient of the independent variables.

X_1= Preventive FRM practices measured from Likert scale questions presented under section B.

X_2= Detective FRM practices measured from Likert scale questions presented under section C.

X_3= Responsive FRM practices measured from Likert scale questions presented under section D.

ε= Error term

3.7 Tests of Significance

In order to conduct proper diagnostic tests and test of significance, T-test statistic were also calculated. The P- value will be obtained (using a table or statistical software). There after a comparison of P-value with α was determined in order to decide whether the model is substantial or not substantial.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This part was an overview of the data analysis techniques, interpretation and presentation of the investigation outcomes as per the objective of the investigation. The chapter also highlighted on the results and discussion of the outcomes concerning the objective of the investigation. The investigation objective was to verify the effects of FRM practices and FP of insurance establishments in Kenya. The chapter also discussed the diagnostic tests, normality tests, autocorrelation analysis and multi-collinearity.

4.2 Demographic Information on the Respondents

The demographic material was sourced from individual research participants and their participants' background and their ability to give valuable material. The outcomes are illustrated as per the demographics and the investigation questions. The general information obtained from the research participants encompassed their gender, the period they have worked at the establishment, the period the establishment been operating and what was the average annual gross revenue for the organization.

4.2.1 Response Rate

From the table below, 43 out of 55 research participants completed the questionnaires. This translated into a response rate of 78%, and this is shown in Table 4.1. According to Mugenda (1999), the response rate of about 50% is good for analysis and since the response rate of 78% was higher than 50%, the response rate translated to an excellent analysis and report for the data.

Table 4.1: Response Rate

	Frequency	Percentage
Response	43	78%
Non-response	12	22%
Population	55	100%

4.2.2 Gender

The investigation sought to verify the gender of the employees at the firm in relation to FRM practices as shown in Figure 4.1.
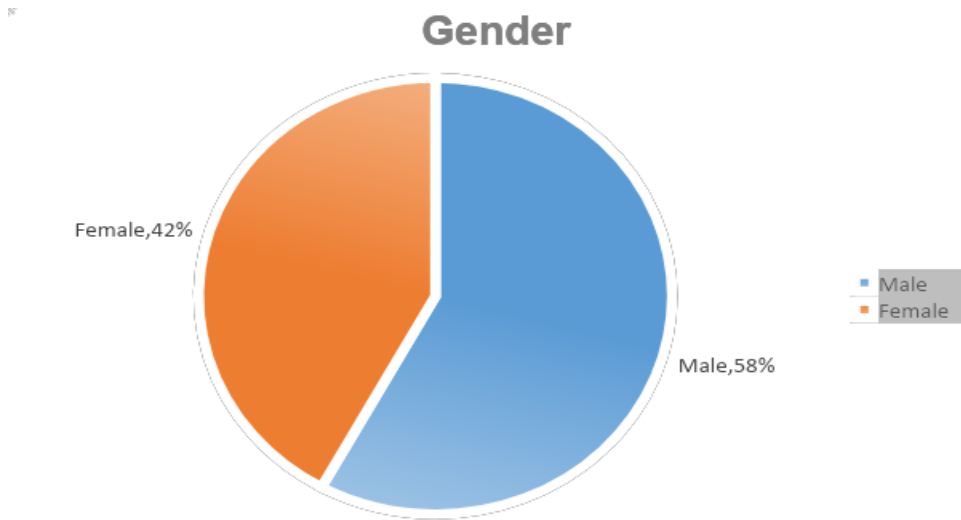
Figure 4.1: Gender

Figure 4.1 reveals that the males at the firm were represented at 58% while females made 42% of the overall number of respondents for the survey. The male respondents were higher due to their increased involvement in practices related to preventive FRM.

4.2.3 Period of Time at the Organization

The investigation sought to establish how long respondents had worked for the organization. The outcomes of the investigation are reveled in figure 4.2 below.
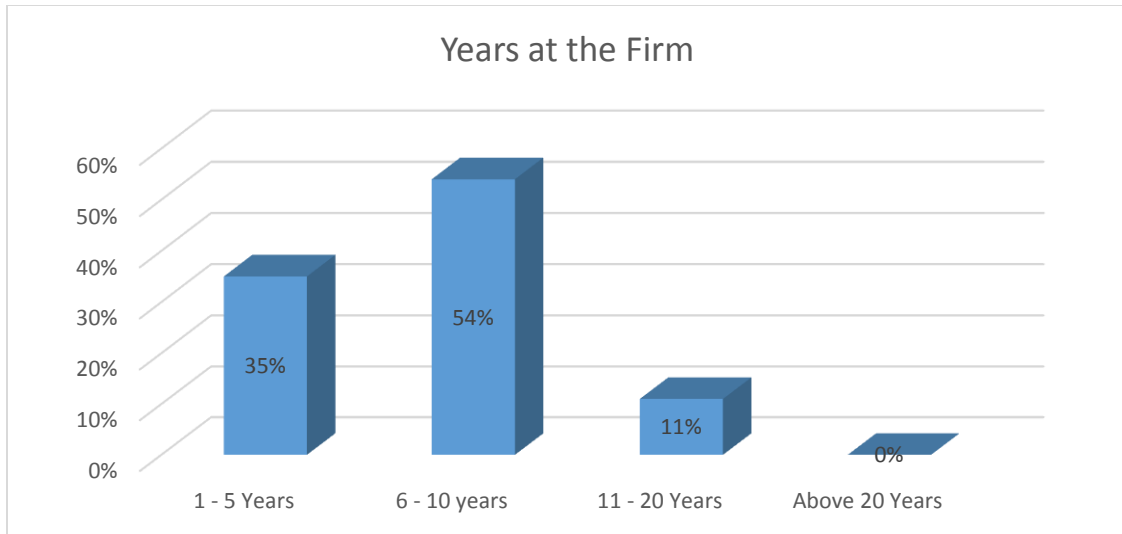
Figure 4.2: Period of Time at the Organization

The outcomes reveal that majority of the research participants under investigation had been in the organization for 6 to 10 years (54%), followed by 1 to 5 years at 35%. The remaining 11%, of the respondents had been employees in the organization for 11 to 20 years.

4.2.4 Age of the Organization

The investigation sought to verify the period the establishments under investigation were in operation. The investigation outcomes are presented in figure 4.3 below.
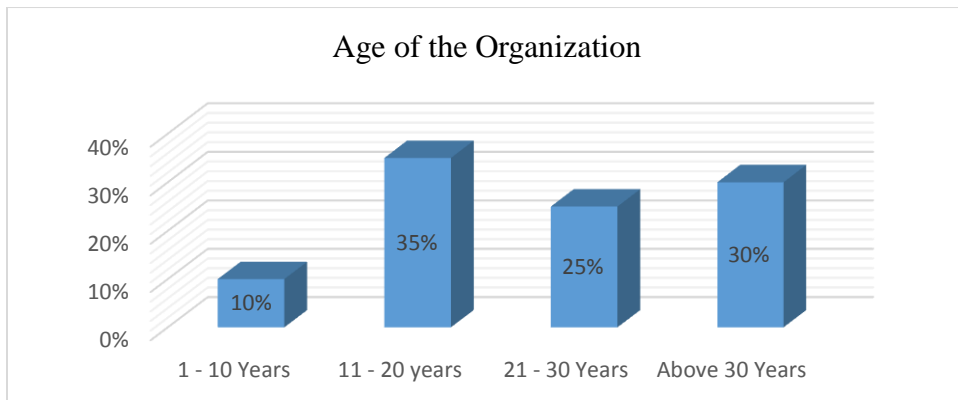
Figure 4.3: Age of the organization

Figure 4.3 shows that most of the insurance firms had been operating for 11 – 20 years, followed by those that have been in operation for a period of more than 30 years. Only 10 % of the organizations had been in operation for 1 to 10 years.

4.2.5 Average Annual Gross Revenue

The investigation sought to establish the average annual gross revenue of the organization in a bid to understand how the revenue obtained by insurance establishments exposes them to vulnerability and increased chances of encountering fraud. Figure 4.3 below indicates the annual gross revenue of the establishments in percentages.

Average Annual Gross Revenue

- Above 500 Million: 71%
- Between 201 and 500 million: 24%
- Less than 200 Million: 5%
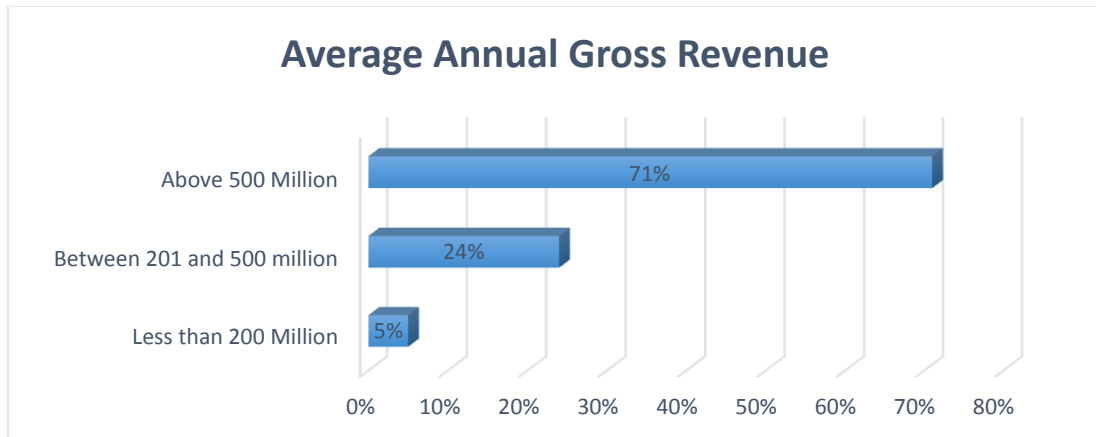
Figure 4.3: Annual Gross Revenue

Figure 4.3 reveals that 71% of the organizations had an annual gross revenue of above KES 500 million, while 24% of the firms had an annual gross revenue of between KES 201 - 500 million. In addition, 5% of the firms had an annual gross revenue of less than KES 200 million. The annual gross revenues of insurance establishments make them

vulnerable to fraudulent practices thus the higher the annual gross revenue of a firm the higher the likelihood of fraud.

4.3 Diagnostic Tests

The diagnostic tests that were used in this section include; heteroskedasticity, multicollinearity and linearity tests. Heteroskedasticity was measured by variance inflation factors and tolerance was represented by scatter plot. Linearity was measured by P-P plot.

4.3.1 Heteroskedasticity

Heteroskedasticity occurs when the standard errors of variables vary widely, and this was checked via scatter plot. The data values and variables were displayed via the scatter plot such that when the variables streamed a normal distribution the scatter plot was con shaped scatter. For this investigation, the data were concentrated on one side of the plot. The distribution of the data sets to the extreme of the scatter plot showed that the data sets had heteroskedasticity.
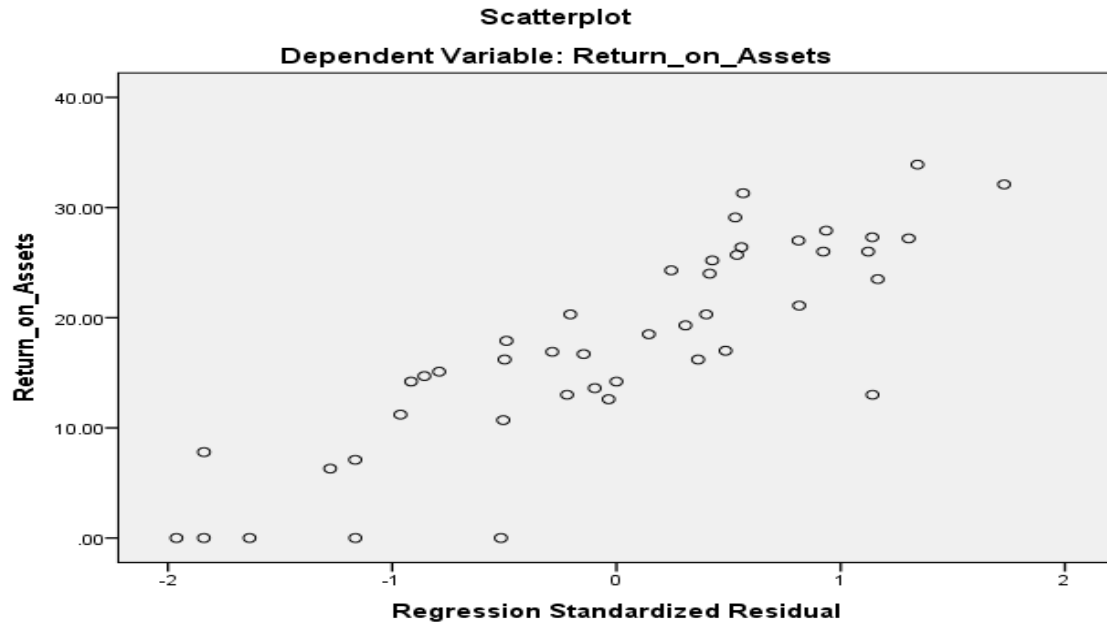
Figure 4.4: Scatter Plot

Figure 4.4 above figure in which the return on assets was plotted on the y axis and the regression standardized residual on the x axis shows a scatter plot whereby the outcomes indicate that the dataset is rising towards the right side of the plot. This therefore meant that the data distribution was heteroscedastic in nature.

4.3.2 Multicollinearity

The investigation measured for multicollinearity using VIF and Tolerance. Multicollinearity is applied when predictor variables are highly correlated and by using a regression model, the investigation will find out the extent to which the dependent variable will be predicted by the independent variable. It also connoted the relation among the input variables such that when there is high variance between predictor coefficients then multicollinearity exists. In this investigation, the Variance Inflation Factor (VIF) and Tolerance was employed to detect multicollinearity.

Tolerance Level <0.10 reflects multicollinearity. As per the tolerance levels, all the dependent variables preventive FRM practices (0.979), detective FRM (0.766) and responsive FRM practices (0.920) projected tolerance levels greater than 0.10 thus the conclusion was that there was no multicollinearity.

Table 4.2: Collinearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Preventive FRM practices	0.979	1.238
Detective FRM practices	0.766	1.401
Responsive FRM practices	0.920	1.620

Source: Author, 2019.

Variance Information Factor (VIF) was used to evaluate the extent to which one variable explained another variable. The standard guide applied will be that when VIF will be equivalent to 1 then there will be no correlation, when the VIF will be less than one or less than or equal to 5 there will be a moderated correlation and when the VIF is greater than 5 there will be a high correlation. From the table 4.2 on collinearity statistics the outcomes showed that the VIF of the variable showed a fair correlation between the predictor variables since the values fell between 1<VIF<5.

The preventive FRM (1,238), detective FRM practices (1.401) and responsive FRM practices (1.620) had values that fell between 1<VIF<5 this showed that there was a moderate link between the predictor variables.

4.3.3 Linearity Test

The investigation used linearity in a bid to measure the consistency of the range of measurements, the P-P plot was used so as to detect linearity. In addition, linearity was the measure of the association between the dependent variable and the predictor variable

Figure 4.2: P-P Plot

From figure 4.2 above, the predictable cumulative probability and the experimental cumulative probability, as per the investigation outcomes, show that the data sets streamed a normal P-P plot to mean that all the variables in the investigation were approximately normally distributed. The conclusion drawn from the P-P plot was that all the variables captured in the investigation (preventive fraud risk, detective and responsive FRM had a substantial direct bearing on the FP of insurance establishments in Kenya.

4.5 Descriptive Statistics for the Study Variables

The descriptive statistics mean for this investigation was measured through the mean and standard deviation. The center of the numerical data sets was used to indicate the

variability around a single value. For the mean, the datasets with higher numerical mean values were found to be of a higher influence. For standard deviation, the further a numerical value is from the mean, the higher the volatility it depicted. Standard deviation was used to indicate how far the numerical values were distributed from the mean.

4.5.1 Preventive Fraud Risk Management Practices and Performance

In order to measure the extent to which insurance establishments followed preventive FRM the investigation analyzed the ratings of each firm through a Likert scale and derived the mean and standard deviation as shown in Table 4.3 below.

Table 4.3: Preventive Fraud Risk Management practices and performance

	Preventive Fraud Management Practices	Mean	Std Deviation
1	Establishment of strong internal controls	3.67	0.753
2	Establishment of effective code of conduct and related standards	3.5	0.961
3	Targeted training on fraud prevention and management	3.48	0.831
4	Employment of screening techniques of potential policyholders	3.4	0.733
5	Employment screening	4.59	0.977
6	Reward to whistle blowers	4.56	0.871
7	Establishment of fraud department	4.3	0.873
8	Employment of support programs	4.56	1.049
9	Adoption of information technology	3.48	0.902
10	Surprise audits	3.71	0.981
	Average Mean	3.925	0.103

The outcomes reveal employment screening had the highest mean (4.59) and this meant that it had the highest influence on the preventive fraud management practices. The

reward to whistle blowers (4.56). the establishment of a fraud risk department (4.3) and the employment of support programs (4.56) equally had an influence on the management of preventive fraud risk. The outcomes also show that the employment of screening techniques of potential policyholders (3.4) had the least influence on the preventive fraud management practices since it had the least mean.

4.5.2 Detective Fraud Risk Management Practices and Performance

The investigation sought to establish the extent to which insurance establishments practiced the detective FRM practices in detection of fraud incidents at the firm and their responses were done through a Likert scale. From the scale, the mean and standard deviation of the variables were derived as shown in Table 4.4 below.

Table 4.4: Detective Fraud Risk Management Practices and Performance

	Detective Fraud Management Practices	**Mean**	**Std Dev.**
1	Management Review of processes	4.05	0.611
2	Proactive data analysis	3.62	0.825
3	Establishment of monitoring system to detect fraud	3.78	0.815
4	Monitoring system aimed at detecting fraud	3.54	0.904
5	Fraud risk awareness training	3.86	0.811
6	Internal –reward for tip off	3.93	0.928
7	External reward for tip-off	3.69	0.111
8	Internal audit	4.03	0.198
9	External audits	4.11	0.441
10	Job rotation	4.21	0.136
	Average Mean	3.882	

The outcomes reveal that job rotation had the highest influence as it had the greatest mean value of (4.21) and therefore it was the most likely to be utilized by the insurance establishments in detective fraud management practices. External audits (4.11),

management of the review process (4.05) and internal audit (4.03) also had mean values that were above four and this indicates that they equally had an influence on the detective fraud management practices by insurance establishments. The monitoring system aimed at detecting fraud had the least mean and this meant that it had the least influence in as far as detecting fraud risks was concerned.

4.5.3 Responsive Fraud Risk Management

The investigation also sought to identify the extent to which responsive FRM practices had an influence on the performance of insurance establishments. Different factors were put to the test and the resulting effects were as shown in Table 4.5 below with regards to their mean and standard deviation.

Table 4.5: Responsive Fraud Risk Management

	Responsive Fraud Management Practices	Mean	Std Deviation
1	Disclosing internal investigation results	3.78	1.03
2	Conducting internal investigation	3.76	1.061
3	Prosecution of both internal and external offenders	3.51	1.012
4	Disclosing the results of internal investigation to all interested parties	3.76	1.022
5	Communicating to the employees of the action taken by the management	3.83	0.914
6	Public disclosure of fraud and misconduct	3.97	0.821
7	Recovery of stolen assets	3.83	0.969
8	Remedying the harm caused	4.66	0.791
9	Strengthening internal controls	4.3	0.898
10	Progressive sanctions	4.12	0.132
	Average Mean	3.952	

Outcomes from the investigation showed that the highest mean was projected by remedying the harm (4.66) caused as a responsive FRM practice that had the highest influence. Progressive sanctions (4.12) and strengthening internal controls (4.3) equally had a substantial amount of influence on the responsive fraud management practices used by insurance establishments. The outcomes further reveal that the prosecution of both external and internal offenders had the least mean (3.51) and therefore translated to the least influence in relation to the responsive FRM practices.

4.6 Correlation Analysis

In the investigation, correlation analysis was employed to measure how strong the associated variables are in a bid to determine the link between the variables. The investigation used the Pearson's coefficient of correlation to determine the strength of the variables. The linear association measure between the variables was denoted by letter r and the values ranged from -1 and 1. The values greater than 0 were used to establish a positive link between the variables thus the increase in the value of one variable resulted in the ultimate increase in the other correlating variable.

When the value streamed from the link was 0, the conclusion was that there was no association between the variables, while values less than 0 indicate a negative correlation. For positive link, when one variable surges, the other variable surges as well, while for an adverse link, when a single variable decreases, the other variable decreases as well. When the value indicated was 0 then the interpretation was that the two variables did not have any association. Table 4.3 points out the correlated variables.

Table 4.6 Pearson's Correlation Coefficient Matrix

	Return on Assets	Preventive FRM	Detective FRM	Responsive FRM
Return on Assets	1.000	0.214	0.073	-0.098
Preventive FRM	0.214	1.000	0.132	-0.041
Detective FRM	0.073	0.132	1.000	0.410
Responsive FRM	-0.098	-0.041	0.410	1.000

Source Author, 2019

From the outcomes of the investigation, ROA positively correlated with preventive FRM (0.214) and detective FRM (0.073) to mean that an increase in preventive fraud risk and detective FRM resulted in the overall increase in ROA. The outcomes further reveal that ROA (-0.098) negatively correlated with responsive FRM and therefore a decrease in the responsive FRM led to the subsequent decrease in ROA.

The outcomes of the investigation show that detective FRM positively correlated with the return on assets (0.073), preventive FRM (0.132) and responsive FRM (0.410). From the outcomes an increase in ROA, preventive FRM and responsive FRM had a positive influence on the detective FRM thus an increase in ROA, preventive and responsive FRM leads to a positive increase in detective FRM.

In addition, the outcomes show that responsive FRM practices positively correlated with detective FRM (0.410) and therefore an increase in responsive FRM resulted in the subsequent increase in detective FRM.

4.7 Regression Analysis

In a bid to identify the link between the variables of interest (the dependent and dependent variables) in the investigation, the investigation conducted a regression analysis to help establish whether preventive FRM, detective FRM, return on assets and responsive FRM had a bearing on the FRM practices and FP of insurance establishments. The tables of model summary, Anova and Regression Output present the outcomes from the data.

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Evaluate
1	0.508[a]	0.259	0.188	8.33856

Source: Secondary Data, 2019

The model summary points towards the coefficient of determination, R square, to be 0.259 This means that 25.9% of the variation in FRM is due to the predictor variables captured in the investigation. In addition, 74.1% of the variation in the datasets was a result of some of the variables that also influenced FRM but were not captured in this investigation.

R, which refers to the coefficient correlation, was employed to describe the link between the independent and the dependent variable. Therefore, the value of 0.508 indicates that there was a moderate link between the investigation variables. The analysis of variances was employed to verify the hypothesis and the rule of thumb was that if the P value was less than 0.05 then the variables had values less than the significance of 0.05 and hence one could reject the null hypothesis.

Table 4.8: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	584.409	3	194.803	2.719	0.033[b]
Residual	3725.02	51	71.635		
Total	4309.429	54			

Source: Research Data, 2019

Outcomes from the Anova model above show that the significance value projected was 0.033. This meant that the predictor variables and the dependent variables had a regression relationship existing between them and therefore the model variables - ROA, preventive FRM, detective FRM and responsive FRM were fit predictors for measuring the FRM approaches and FP of insurance establishments in Kenya.

The regression analysis results will help to measure if the independent variables have a bearing on the dependent variable and the rule applied was such that if the coefficient has a value of 0, it has no effect on the variables but variables with values above 0, have an effect and thus give room for the hypothesis to be rejected.

Table 4.9: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-201.523	71.444		-2.821	0.007
Preventive FRM	0.376	1.280	0.043	0.294	0.037
Detective FRM	1.618	0.793	0.343	2.040	0.048
Responsive FRM	-0.426	0.378	-0.169	-1.126	0.026

Source: Research Data, 2019 Table 4.6

From the Table 4.9 above, the outcomes showed that preventive FRM had a beta coefficient of 0.376 to mean that for every unit surge in the effort of preventing fraud, the performance of insurance establishments went up by 0.376. The outcomes further reveal that detective fraud risk had a beta coefficient of 1.618 to mean that for every unit increase in detective FRM, there was a resulting increase in the performance of insurance establishments by 1.618. Still from the investigation outcomes, the responsive FRM had a beta coefficient of -0.426 and this meant that for every unit decrease in responsive risk management, the performance of insurance establishments decreased by -0.426.

Further, the table also showed the significance value of each variable. The variables were found to be substantial since the p values were below 0.05. P value of the preventive FRM was 0.037 < P value of 0.05 while the P value of the detective FRM was 0.048 < P value of 0.05. The outcomes also showed that the P value of responsive FRM was 0.026 < P value of 0.05.

4.8 Discussion of the Findings

The outcomes reveal that the coefficient determinant of R square was 0.259, pointing out that the variation in FRM was a result of 25.9% of the predictor variables that the investigation captured. In addition, the R coefficient of correlation (0.508) signified a positive moderate link between the predictor variables and the independent variables. In relation to the coefficient of R square, 74.1% of the variation in the datasets was attributed to other variables that the investigation may not have captured.

Outcomes from the investigation for the analysis of variance model showed that the overall significance of the variables was 0.033 which was less than 0.05. This showed

that all the variables used in the investigation (preventive, detective and responsive FRM) were substantial for use in the investigation. From the Pearson correlation coefficient matrix, the outcomes pointed out that a positive link exists between ROA and preventive FRM and detective FRM and the increase in detective and preventive FRM led to the overall surge in ROA thereby positively affecting the financial performance of the insurance. Further, there was an adverse link between ROA and responsive FRM and a decrease in responsive FRM subsequently decreased ROA.

The outcomes from the descriptive statistics that measured the extent to which the variables affected the performance of the insurance establishments in relation to FRM showed that employment screening as a preventive FRM measure had the highest mean and therefore the biggest influence as the FRM measure thus positively affecting performance. The outcomes further reveal that remedying the harm caused had the highest mean and was the responsive measure with the highest influence since it streamed a mean of 4.66. In addition, detective FRM showed that job rotation (4.21) projected the highest mean.

From the regression output, the outcomes reveal that FRM had a beta coefficient of (0.376) meaning that for every unit surge in the effort of preventing fraud, the performance of insurance establishments went up 0.376. The outcomes also show that detective FRM resulted in the overall increase in performance of the insurance establishments however, responsive FRM as per the outcomes had a negative beta coefficient (-0.426) and therefore every unit decrease in the responsive FRM resulted in an overall decrease in the performance.

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The outcomes from the investigation on the individual significance of each variable revealed that all the variables were substantial since they had a P value < 0.05. That is, preventive FRM had a value 0.037 > P value of 0.05, indicating the significance value of preventive fraud risk was greater than the P value and therefore it was not substantial. This was confirmed by Sumro et al (2019) who pinpointed that there was inadequate effective identity fraud management. Still from the outcomes, the significance of the detective FRM was 0.048 < P value of 0.05 which meant that its significance was lower than 0.05 and therefore as a variable, was substantial to measure performance. Additionally, from the outcomes, significance value of responsive FRM was 0.026 > P value of 0.05 to mean that the significance value was less than 0.05 and therefore responsive FRM was substantial.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This part presented the summary, conclusion, and recommendations of the investigation. It also gives the limitations of the investigation and recommendations for further investigation in relation to the topic of investigation. The study had one objective of finding out whether there was any correlation between fraud risk management practices such as; preventive FRM practices; detective FRM and responsive FRM practices; and financial performance of insurance companies.

5.2 Summary

The outcomes are summarized in line with the investigation objective, which was to determine the bearing of FRM practices and financial performance of insurance establishments in Kenya. In summary, the investigation used quantitative data from secondary and primary materials to ascertain the bearing of FRM practices on the FP of insurance establishments in Kenya. The variables under investigation were preventive. detective and responsive FRM practices. The outcomes from the mean and standard deviation showed that preventive FRM practices utilized the element of employment screening which had the highest influence due to the highest mean it projected.

Employment screening was the most used strategy for preventing fraud and reducing fraud risk and thereby it enhanced the performance of insurance establishments. The other preventive fraud risk strategies that were also most utilized were; - the reward to whistle blowers, the establishment of a fraud risk department and the employment of

support programs. Screening techniques of potential policyholders however had the least influence.

From the outcomes, the most influential detective FRM measure was job rotation which had the highest mean while other strategies that were moderately effective were detective external audits, management of the review process and internal audit. For responsive FRM, the remedy of harm caused had the highest mean and thus it had the most influence while progressive sanctions and strengthening internal controls were also, to a large extent influential in FRM.

From the model summary, the outcomes reveal that the coefficient of R square was 0.259 and therefore 25.9% of the FRM was due to the predictor variables that were captured in the investigation. However, 74.1% was a representation of variables that synonymously affected the investigation but were not captured in the investigation. Further, the outcomes reveal that the return on assets had an adverse link with responsive FRM but a positive link with preventive FRM and detective FRM. The R coefficient further showed that a moderate link existed between the investigation variables.

The regression analysis outcomes pointed out that the predictor variables had both negative and positive effects on the FP of insurance establishments. The outcomes reveal that the beta coefficient of preventive fraud risk (0.376) and detective FRM (1.618) had a positive influence on the performance of the insurance establishments and thus for each unit surge in preventive and detective FRM approaches, the FP of insurance establishments went up by the margins they projected from the beta coefficient. However, the responsive FRM had a negative beta coefficient and therefore for every unit decrease

in responsive FRM there was a resultant decrease in the performance of insurance companies.

The outcomes from the regression output showed that detective FRM practices and responsive FRM practices were substantial for use in FRM because their substantial values were less than the substantial value of 0.05 and thus depicted a substantial influence on the investigation.

5.2 Conclusion

The investigation concludes that the various predictor variables were uniquely useful in the management of fraud risk. A unit increase in preventive and detective FRM resulted in the increase in ROA and thereby the performance of insurance establishments was affected positively. However, the investigation also concludes that the use of responsive FRM practices relatively decreased ROA and that it was better for insurance establishments to embrace preventive and detective fraud management practices so as to enhance their performance.

The investigation also concluded that the most utilized preventive and detective FRM practices by insurance establishments were employment screening, the reward for whistleblowers, establishing fraud risk departments and the use of detective internal and external audits. Overall, the outcomes of the investigation pointed out that fraud management practices need to be adopted by all insurance firms since they positively affected the FP of insurance establishments in Kenya.

5.3 Recommendations

Based on the annual gross income of insurance establishments as projected by the outcomes of the investigation, the investigation recommends that insurance establishments should increase their mechanisms of internal control as well as embrace FRM practices so as to secure their revenue from fraudulent practices that may result from employee behavior and false audit reports. In addition, the investigation recommends that efforts should be placed by insurance establishments to enhance early detection of fraudulent practices and curtail them before they negatively influence the FP of the insurance establishments.

For risk management practices, the investigation suggests that insurance establishments ought to make efforts to formulate a multidimensional strategy that aims at effectively combining detective, responsive and preventive fraud risk management practices to manage risk in order to curtail potential fraud risk practices that threaten financial performance. In a bid for insurance establishments to get higher returns and reduce the losses they incur from fraud; the investigation also recommends that the management practices proper monitoring of the operations so as to protect the annual income of the insurance firm through risk management undertakings.

The investigation also recommends that insurance establishments should formulate proper policies that will protect the establishments from fraudulent activities. In addition, insurance establishments should collaborate with different stakeholders who have substantial influence in the formation of policy such as governments, to enhance the formulation of policies that have meaningful impact on the performance of the firms as

well as those that heavily penalize fraudsters so that the incidences of fraudulent activities are kept at a minimum. The minimization of fraudulent activities through policy formulation will help protect insurance establishments and thus produce a resultant positive bearing on the FP of the insurance establishments.

The investigation also proposes that insurance establishments should integrate the use of fraud detecting technology to carefully trace the occurrence of fraudulent practices that incur losses to the company. The technology can leverage the establishment's losses through the formulation of tech solutions that can reduce the chances of the occurrence of fraud. Technology can provide easy means of regulating the incidences of fraud and thereby boosting the FP of the insurance firms.

5.4 Limitations of the Study

From the model summary the investigation was limited since it only analyzed a few predictor variables that had substantial influence in the FRM practices however the remaining 74.1% was as a result of the variables that were not captured in the investigation and therefore the investigation views this as a limitation since the variables that were not in the investigation may equally have had substantial influence that would have determined the type of FRM practices that the investigation should have adopted in order to ensure increased FP of insurance establishments.

The investigation similarly analyzed the fraud management practices of insurance establishments in general but did not closely analyze how preventive, detective and responsive FRM approaches affected each of the insurance establishments individually. This therefore meant that the investigation could not establish which strategy worked

effectively for the specific insurance establishments. In addition, the investigation did not analyze how each of the predictor variables influenced the performance of the 55 insurance establishments that were captured in the investigation.

The investigation was also limited by time constraints since the investigation used both primary and secondary material to extract the data and this required more time than was available for the period of collecting data. In addition, the investigation was also limited by the short period of research investigation since analyzing the 55 insurance for fraudulent activities required more time than what the researcher had to work with.

5.5 Suggestions for Further Research

The investigation proposes that there should be more research on FRM with regards to how administration of insurance establishments can reduce the operational risks that increase the incidences of fraud risk. In addition, further research should be done on how the staff in insurance establishments can be trained in handling risks associated with fraud such that there expertize can be used to reduce the incidences of fraudulent activities that expose insurance establishments to losses thus negatively affecting their performance. There should also be research on how employees can integrate the use of technology in a bid to boost the performance of insurance establishments while reducing the incidences of fraud.

The investigation suggests there should be research to analyze the amount of losses incurred by the insurance establishments through fraudulent practices in a bid to know the intensity of FRM practices that should be adopted by insurance establishments so as to ensure that there is increased performance and output by the insurance firms.

Insurance establishments should also ensure that they research on new FRM practices that can be useful in providing new meaningful solutions that are in line with the new challenges that come with fraudulent activities.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

This questionnaire was designed to collect information on relationship between fraud risk management and financial performance of licensed insurance firms in Kenya. The information obtained was only be used for academic purposes and shall be treated in utmost confidence. You are requested to complete this questionnaire as honestly and objectively as possible. Please tick appropriately and also kindly provide answers in the blank spaces provided.

SECTION A: BACKGROUND INFORMATION

1.   Kindly indicate gender.

Male   [ ]   Female   [ ]

2.   How long have you worked in this organization?

0-5yrs   [ ]   6-10yrs   [ ]

11-20yrs   [ ]   Above 20yrs   [ ]

3.   How many years has the organization been in operation?

0-5yrs   [ ]   6-10yrs   [ ]

11-20yrs   [ ]   Above 20yrs   [ ]

4.   What is the average annual gross revenue for the organization?(Kshs)

Less than 200 Million   [ ]

Between 201 Million and 500 Million   [ ]   Above 500 Million   [ ]

SECTION B: PREVENTIVE FRAUD RISK MANAGEMENT PRACTICES To what extent do you practice the following preventive fraud risk management practices in prevention of fraud incidences in the firm? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent).

5.   How many fraud cases has your organization suffered in the past few years?

None [ ]   1-5 [ ]   6-10 [ ]   11-15 [ ]   Above 15 [ ]

Preventive Fraud Management Practices	5	4	3	2	1
Establishment of strong internal controls					
Establishment of effective code of conduct and related standards					
Targeted training on fraud prevention and management					
Employment of screening techniques of potential policy holders					
Employment screening					
Reward to whistle blowers					
Establishment of fraud department					
Employment of support programs					
Adoption of information technology					
Surprise audits					

SECTION C: DETECTIVE FRAUD RISK MANAGEMENT PRACTICES To what extent do you practice the following detective fraud risk management practices in detection of fraud incidences in the firm? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent).

Detective Fraud Management Practices	5	4	3	2	1
Management Review of processes					
Proactive data analysis					
Establishment of monitoring system to detect fraud					
Monitoring system aimed at detecting fraud					
Fraud risk awareness training					
Internal –reward for tip off					
External reward for tip-off					
Internal audit					
External audits					
Job rotation					

SECTION D: RESPONSIVE FRAUD RISK MANAGEMENT PRACTICES To what extent do you practice the following responsive fraud risk management practices in prevention of fraud incidences in the firm? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent.

Responsive Fraud Management Practices	5	4	3	2	1
Disclosing internal investigation results					
Conducting internal investigation					
Prosecution of both internal and external offenders					
Disclosing the results of internal investigation to all interested parties					
Communicating to the employees of the action taken by the management					
Public disclosure of fraud and misconduct					
Recovery of stolen assets					
Remedying the harm caused					
Strengthening internal controls					
Progressive sanctions					

APPENDIX II: LICENSED INSURANCE COMPANIES IN KENYA

1.	AAR Insurance Company Limited
2.	Africa Merchant Insurance Company Limited
3.	AIG Kenya Insurance Company Limited
4.	Allianz Insurance Company of Kenya Limited
5.	APA Insurance Limited
6.	APA Life Insurance Company Limited
7.	Barclays Life Assurance Kenya Limited
8.	Britam General Insurance Company Limited
9.	Britam Life Assurance Company (K) Limited
10.	Cannon Assurance Company Limited
11.	Capex Life Assurance Company Limited
12.	CIC General Insurance Company Limited
13.	CIC Life Assurance Company Limited
14.	Continental Reinsurance Limited (Kenya)
15.	Corporate Insurance Company Limited
16.	Directline Assurance Company Limited
17.	East Africa Reinsurance Company Limited
18.	Fidelity Shield Insurance Company Limited
19.	First Assurance Company Limited
20.	GA Insurance Limited
21.	GA Life Assurance Limited
22.	Geminia Insurance Co. Limited
23.	ICEA Lion General Insurance Company Limited
24.	ICEA Lion Life Assurance Company Limited
25.	Intra Africa Assurance Company Limited
26.	Invesco Assurance Company Limited
27.	Kenindia Assurance Company Limited

28. Kenya Orient Insurance Limited
29. Kenya Orient Life Assurance Limited
30. Kenya Reinsurance Corporation Limited
31. Liberty Life Assurance Kenya Limited
32. Madison Insurance Company Kenya Limited
33. Mayfair Insurance Company Limited
34. Metropolitan Cannon Life Assurance Limited
35. Occidental Insurance Company Limited
36. Old Mutual Assurance Company Limited
37. Pacis Insurance Company Limited
38. Phoenix of East Africa Assurance Co. Limited
39. Pioneer General Insurance Company Limited
40. Pioneer Assurance Company Limited
41. Prudential Life Assurance Company Limited
42. Resolution Insurance Company Limited
43. Saham Assurance Company Kenya Limited
44. Sanlam General Insurance Company Limited
45. Sanlam Life Assurance Company Limited
46. Takaful Insurance of Africa Limited
47. Tausi Assurance Company Limited
48. The Heritage Insurance Company Limited
49. The Jubilee Insurance Company of Kenya Limited
50. The Kenyan Alliance Insurance Company Limited
51. The Monarch Insurance Company Limited
52. Trident Insurance Company Limited
53. UAP Insurance Company Limited
54. UAP Life Assurance Company Limited
55. Xplico Insurance Company Limited