INSURANCE FRAUD RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF GENERAL INSURANCE FIRMS IN KENYA

CYNTHIA ONYANGO

A RESEARCH PROPOSAL SUBMITTED TO THE UNIVERSITY OF NAIROBI, SCHOOL OF BUSINESS FOR THE AWARD OF DEGREE OF MASTERS OF SCIENCE IN FINANCE, FACULTY OF BUSINESS AND MANAGEMENT SCIENCE, UNIVERSITY OF NAIROBI

NOVEMBER 2021

DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

Signature *CynthiaOnyango*   Date November 27, 2021

Cynthia Onyango   D63/5841/2017

This research project has been submitted for examination with my approval as the university supervisor.

Signature _____   Date November 26, 2021

Dr. Winnie Nyamute

Lecturer, Department of Finance & Accounting

School of Business

ACKNOWLEDGEMENT

I acknowledge my Supervisor, Dr. Winnie Nyamute for her supervision and objective

guidance. I also acknowledge my colleagues and lecturers at the University of Nairobi.

I also acknowledge the moral and financial support from friends and family.

DEDICATION

I dedicate this project to Roselyne Wechuli.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

IFIU   Insurance Fraud Investigation Unit

IRA   Insurance regulatory authority

KES   Kenya Shillings

ROA   Return on Assets

ROE   Return On Equity

ROI   Return on Investment

ROIC   Return on Invested Capital

ABSTRACT

General insurance firms in Kenya have continued to display declining performance in the recent years. In the recent years, majority of the fraud cases in the insurance industry occur in the general insurance category. The objective of this research was to determine the relationship between fraud risk management on financial performance of General insurance firms in Kenya. This study adopted a causal-descriptive research design. The study targeted the general insurance firms in Kenya. This research included 32 general insurance firms that operated between 1st January 2016 and 31st December 2020. The study was based on secondary data sourced from the annual financial reports of individual firms. The data was collected using data collection schedule. This research used quantitative data analysis methods of descriptive and inferential analysis. The statistics will be generated using SPSS version 25. The researcher undertook a correlation analysis to establish the relationship between fraud risk management and financial performance of general insurance firms in Kenya. From the outcome, fraud loss ratio had a weak significant negative relationship with financial performance. This indicates that fraud risk has a negative relationship with financial performance. Leverage as measured by the ratio of deferred insurance liabilities to equity showed a weak negative correlation coefficient. Firm size showed a strong significantly positive correlation coefficient. The findings conclude that fraud risk management has a weak positive significant relationship with financial performance of general insurance firms in Kenya. Leverage on the other hand has a negative significant relationship with financial performance of general insurance firms in Kenya. Firm size has a strong significantly positive relationship with financial performance of general insurance firms in Kenya. The study recommends that general insurance firms in Kenya come up with fraud risk management strategies that would reduce the fraud risk ratio in the firms. This research also recommends that financial performance of general insurance firms in Kenya need to reduce the levels of deferred liabilities and increase the level and value of assets within their firms.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Fraud presents both policyholders and insurance companies with significant and costly challenges (De Leeuw, 2014). For genuinely insured policy holders, fraud retards the reimbursement while fraud causes a company high settlement cost and eventually has an impact on the performance. For the insurance companies, fraud causes high settlement costs. But, Doig and Levi (2013) stress that the sophistication and volume of the fraudulent claims, especially electronic fraud, have increased over the years, despite the increase in the budget and policies introduced for prevention of fraud. It is therefore important for insurance companies to develop appropriate fraud risk management practices. Consequently, insurance companies need to develop appropriate fraud risk management practices to combat the vice because if the tendency isn't reversed, the risk will continue to have a negative impact on the company's performance. Nevertheless, Ndwiga et al. (2012) indicates that the effect of fraud will be reduced and therefore improved company performance by the company establishing appropriate fraud risk management practices.

This study will be based on various theories. They include collective risk theory by Fillip Lundberg, fraud management lifecycle theory by Albrecht et al (2009) and fraud triangle theory by Cressey (1953). Collective risk theory postulates that insurance is subject to commercial risks and insurance risks. Business risks if not well managed leads to insolvency and financial performance issues. Fraud management lifecycle theory states that fraud is a system lifecycle in which every single hub in the network and each phase in the lifecycle is a group of elements that are inter-related in one way or another in an organizations operation. The elements need to be managed individually

and collectively to avoid losses related to fraud. Fraud triangle theory, on the other hand, postulates that there are three elements that define a fraud: perceived opportunity, perceived pressure and rationalization which form the fraud triangle.

Tackling insurance fraud remains a priority for insurers. According to the Association of British Insurers (2020), insurers detected a total of 125,000 dishonest insurance claims valued at £1.3 billion and it is estimated that a similar amount of fraud goes undetected each year. The insurance sector in Kenya has recorded KES3.27bn ($30.05m) in underwriting losses, its worst in over two decades. The underwriting losses in 2020 stood at KES 879.28 million. The losses were accrued to rising fraud and price undercutting especially in the general insurance sector especially medical and motor vehicle insurance. Data from the Insurance Fraud Investigation Unit (2020) also showed that 37 cases of fraud were leading to a loss of 310.4 million by various insurance firms in the third quarter of 2020. General insurance accrued for more than 50% of the fraud. The question is whether the financial performance can be accrued to fraud risk management risk in the general insurance firms in Kenya.

1.1.1 Fraud risk management

Boateng, Boateng and Acquah (2014) states that fraud risk management involves the practice of analyzing fraud risks in a firm and then establishing an anti-fraud strategy to prevent fraudulent conduct from occurring. On the other hand, Samociuk et al (2017) indicate fraud risk management as all activities relating with how fraud could be recognized, analyzed, minimized, monitored, and reported to senior management. Fraud Risk Management is a systematic method in which frauds are reduced in an organization (Turner, 2007). Frauds can only be reduced if there is a process where, the fraud is detected at an early stage. Once the fraud is detected, measures have to be taken

in order to mitigate the fraud. This is known as Fraud Risk Management as per Iyer and Samociuk (2016).

The detection of fraud is critical for every organization. If a process for detecting such fraud exists, an organization can effectively navigate its way through a crisis (Madah Marzuki et al, 2020). As a result, having such a model for fraud risk management is critical. Hess and Cottrell (2016) further states that an effective fraud risk management strategy will enable organizations to establish controls that deter fraud from happening in the first place, detect fraud as soon as it occurs, and quickly respond to fraud occurrences once they arise. This would reduce cases of failure in business or increased financial losses that may lead to dwindling financial performance of organizations.

Fraud risk management has been measured in various ways by researchers. Izzalqurny, Subroto and Ghofar (2019) measured fraud risk management through fraud prevention methods, fraud detection methods and fraud monitoring methods. On the other hand, Kolapo and Olaniyan (2018) measured fraud risk management in terms of fraud loss ratio. Tan and Swan (2020) measured fraud risk management in terms of cashflow to revenue ratio. However, Mwangi and Ndegwa (2020) measured fraud risk management in terms of detective, preventive and corrective controls by management. This study will measure fraud risk management in terms of loss ratio.

1.1.2 Financial performance

Financial performance is revenue generation through utilization of firm assets (Adams & Mehran, 2015). Financial performance is the monetary measurement of the outcomes of a firm (Kwaning, Awuah & Mahama, 2015). Rogovsky (2015) notes that financial performance is defined as the measurement of a firm's financial outcomes for a specified period of time in comparison to other firms within a sector. Financial

performance of a firm is degree of organization's turnover or loses within a given time frame (Roberts, 2017).

Financial performance aims to measure the manner in which a firm has utilized the available resources in the organization to generate revenue (Almagtome & Abbas, 2020). The ability of a company to attract clients who can produce income is critical to its long-term viability. As a result, determining the firm's state and profitability is critical. Financial performance assesses a company's management's capacity to generate profit by putting the working assets to use (Taouab & Issor, 2019). It also demonstrates how effectively a company's assets are being used to generate money. Furthermore, it demonstrates the effectiveness of a top management in generating revenue from it's own resources (Khrawish, 2011).

Past researchers have proposed the use of ratios such return on assets (ROA), return on equity (ROE) as measures of profitability while ratios such as expenses ratios are used to assess the operational financial performance (Otieno, 2019). Emre and Asl (2018) contends that profitability is the best measure of a firm's financial performance. He recommended ratios like return on assets (ROA) and return on equity (ROE). Li (2020) measured performance in terms of ROI and ROIC. This study measured financial performance in terms of return on assets.

1.1.3 Fraud Risk Management and Financial Performance

Theoretically, fraud risk management has been found to enhance financial performance. Fraud management theory states that firms that manage fraud across the cycle experience improved financial metrics due to reduced financial losses through fraud. However, empirical studies have shown mixed results. Saiful and Ayu (2019); and Hussaini, Bakar and Yusuf (2018) found that a positive relationship exists between

fraud risk management and financial performance. Mawutor et al (2019) found that a negative relationship existed between fraud risk management and financial performance. However, Chepkoech and Rotich (2017) found no statistically significant relationship between fraud risk management and financial performance.

1.1.4 General Insurance Firms in Kenya

As per IRA (2020), the Kenyan general insurance industry comprises of 36 firms. Other players in this sector includes one hundred and seventy-four (174) licensed insurance brokers, four thousand and eight hundred and three (4,803) insurance agents, one hundred twenty-nine (129) investigators, ninety-six (96) motor assessors, twenty (20) loss adjusters, one claims settling agent, eight (8) risk managers and twenty-six (26) insurance surveyors.

General insurance firms have experienced increasing fraud. This has been shown by the increased loss ratios relating to fraud in the last five years (IRA, 2020). The general insurance firms have also been experiencing losses in the recent years. A good example is Britam general insurance which has made losses in the last year (IRA, 2020). There is need to check on the level of fraud and adopt risk management practices that would reduce the fraud loss ratio.

1.2 Statement of the problem

Fraud poses significant and costly challenge for both policy holders and insurance companies (Ghorbani & Farzai, 2018). For the genuine policy holders that are faced with the insured risk, existence of fraud delays the settlement of claim while to the insurance firms, fraud cases lead to high settlement cost to a company and eventually affecting the firms' performance. Theoretically, fraud risk management has become a key element of financial performance among firms. This is because it enables firms to

reduce losses related to fraud hence enhancing financial ratios. However, despite the increase in fraud prevention budget and policies introduced, the sophistication and volume of fraudulent claims has been raising over the years (Purpura, 2017).

General insurance firms continue to display declining performance. Industry gross written premium stood at Kshs 232.9 bn as at end of 2020, representing an increase of 4.4% from Kshs 228.8 bn in Q4'2019. Long term insurance segment grew by 4.5%, while general Insurance declined marginally by 0.2% (IRA, 2020). However, the claims paid by the general insurers declined by 2.6% to KES 54.19 billion compared to KES 55.62 billion paid in 2019 (IRA, 2020). In 2020, forty-three (43) insurance fraud cases were reported to the Insurance Fraud Investigation Unit (IFIU) with 38 fraud cases being in the general insurance category (IFIU, 2020).

Various researchers have carried out research on fraud risk management and financial performance. Globally, Saiful and Ayu (2019) studied risks management and bank performance based on the empirical evidences from Indonesian conventional and Islamic banks; Hussaini, Bakar and Yusuf (2018) studied the effect of fraud risk management, risk culture, on the performance of Nigerian Banking Sector; Halm-Laryea (2019) studied the effect of risk management on the profitability of universal banks in Ghana; while Ntwali, Kituyi and Kengere (2020) studied claims management and financial performance of insurance companies in Rwanda based on a case of SONARWA General Insurance Company Ltd.

Locally, Chepkoech and Rotich (2017) studied the effect of risk management process on motor insurance fraud in Kenya; Kiragu (2019) studied the drivers of motor vehicle insurance fraud risk based on empirical evidence from insurance companies in Kenya; Too and Simiyu (2018) studied firms characteristics and financial performance of general insurance firms in Kenya; while Gathu (2018) did a research on the effects of

fraud risk management practices on net incurred medical claims in Kenyan insurance industry. Despite the local studies focusing on fraud and performance, the studies have focused on different firms other than general insurance firms. They also focused on different variables other than the ones considered in the study. The studies also adopted different methodologies from the ones adopted in the present study. This creates a research gap which this study sought to answer the question: what is the relationship between fraud risk management and financial performance of general insurance firms in Kenya?

1.3 Research Objective

To determine the relationship between fraud risk management on financial performance of General insurance firms in Kenya

1.4 Value of the study

This paper may be valuable to various stakeholders. Policy makers will benefit from the study. The understanding of the relationship between fraud risk management and financial performance will enable the policy makers like Insurance Regulatory Authority come up with relevant policies. Such policies would be geared towards improving fraud risk management and financial performance among insurers.

The management of general insurers in Kenya would also find this study important. This study will provide recommendations and findings that will create a basis for strategy formulation. This would enhance management of fraud risk which would enhance financial performance among the general insurance firms.

Scholars and researchers would also find this study important. The paper may form a basis for further research on fraud risk management and financial performance.

Scholars would also find this study this study as a source of literature for academic assignments.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section of the paper provides the literature, both empirical and theoretical, as relates to fraud risk management and financial performance. The conceptualization of the variables will also be done in this chapter with the gaps brought out at the end.

2.2 Theoretical Framework

2.1.1 Collective Risk Theory

Collective risk theory was first postulated by the Swedish actuary, Fillip Lundberg. According to the theory, the insurance industry is exposed to two distinct categories of risk: commercial risks and insured risks. Commercial risks are typical to many of the businesses, and include risks associated with generalized economic volatility and risky investments, but insurance risks is unique in that they are linked to risk variations as assessed by the disparity in claims volumes and predicted claims levels. Professor Cram divided those insurance risks under 2 categories: exogenous risks, like large mortalities of conflicts and plagues, and random fluctuations, that could be caused by a significant claims, especially high claims volumes, or maybe both. To scrutinize the unsystematic fluctuations and to inspect the associated scientific risk, European actuaries came up with a considerable body of mathematics known as the theory of risk, that ultimately pursues to prescribe how an insurance business may be protected from the unfavorable effects of these fluctuations.

Risk theory can be seen from two perspectives: individually and collectively or classically. Individual risk hypothesis investigates the overall gains or losses across all plans inside a portfolios by first analyzing the gain or loss on every insurance plan; subsequently, by aggregating such individuals wins or losses, it provides info regarding

the entire gains / losses across all plans in the portfolios. In collective risk theory, on either hand, the goal is to study the risk business overall. The number of overall claims or even the overall gain coming from all the plans inside the portfolios analyzed is of prime concern, not really the gains, loses, or claims of individual plans.

Collective risk theory considers two principal problems of finding the distribution functions of the total gain or the total amount of claims in a portfolio or risk enterprise, and finding the probability that the risk reserve of a risk enterprise will become exhausted, which is the main problem.

In actuarial science and applied probability, collective risk theory is applied by use mathematical models to describe an insurer's vulnerability to insolvency and losses. In such models, key quantities of interest are the probability of insolvency distribution of surplus immediately prior to insolvency and deficit at time of insolvency. This research study made references to the collective risk theory in bid to understand how the net incurred claim ratio at different levels present the insolvency risks to medical insurance provider's risk.

2.1.2 The Fraud Management Lifecycle Theory

Albrecht, Albrecht, Albrecht, and Zimbelman (2009) advanced the fraud lifecycle theory. The theory represents fraud as a system lifecycle in which every single hub in the network and each phase in the lifecycle is a group of elements that are inter-related in one way or another in an organizations operation. According to the theory, there are eight phases in a fraud management lifecycle ranging from discouragement, avoidance, discovery, mitigation, analysis, policy, investigation and prosecution. The principal phase of deterrence is underlined debilitation through fear; to prevent activity by fear of the outcomes that might arise (Wesley & Fair, 2004).

In the fraud management lifecycle theory, it recognizes that failures occur on the ground that the culprits of fraud activities were not successful in their deceitful mission and that fraud was detected, the suspects were identified, prosecuted and charges recorded against them in respect to predefined laws and principles (Wesley & Fair, 2004). It is clearly understood that in the fraud management lifecycle, interrelationships that exist among the eight phases are very important to the Fraud Management Lifecycle Theory. The theory of Fraud management life cycle is applicable in this study since it distinctively demonstrates the phases of fraud hazard management in a sequential way. Further, the theory shows what insurance firm processes that should set up for fraud to be successfully overseen. The theory fails to explain drivers of fraud in an organization. This theory expects uniform social, lawful, and innovative applications in the management of fraud. This theory does not endeavor to clarify fraud control practices in a domain when such frameworks and procedures fail.

2.1.3 The Fraud Triangle Theory

The theory was advanced by Cressey (1953) by postulating that behind everything that the people do, there must be a reason. According to the theory, there are three elements that define a fraud namely; perceived opportunity, perceived pressure and finally rationalization of the fraud activity. The three factors result to what is referred as the fraud triangle. As Albrecht, Turnbull, Zhang, and Skousen, (2010) put it, the three components are intuitive in that in any situation that the chances of perceived opportunity or perceived pressure is high, there is also less chances of rationalization taking place for somebody to be found committing fraud. However, fraud being a function of various activities, gives it a characteristically complex feature that makes it difficult to be identified and stopped (Rae & Subramaniam, 2008). Having a clear knowledge of how fraud is boosted by perceived opportunity, pressure and

rationalization in a company can, to a greater extent, provide support towards lifting the actions of fraud and identifying the weak areas that fraud may arise and thus calling for fortify such areas (Albrecht et al., 2008).

Fraud culprits must have an apparent opportunity or they won't confer fraud, opportunity incorporate factors, for example, a frail top managerial staff, deficient internal controls or the capacity to shroud the fraud behind complex exchanges. (Albrecht et al., 2009). Different elements that make an opportunity to be a factor that promotes fraud activities include absence of controls, control circumvention that anticipate or identify false conduct, the powerlessness to judge the nature of performance, inability to punish fraud culprits, absence of access to information, obliviousness, insufficiency and the absence of an audit trail (Albrecht et al., 2009).

Opportunity is however a problem because it gives room for fraudsters to commit fraud in an organization (Rae and Subramaniam, 2008). Insufficient controls or the capacity of the administration to abrogate controls likewise give an opportunity for a fraud to be committed (Cohen, Ding, Lesage, and Stolowy, 2013). Opportunities to confer fraud can likewise emerge when an employee achieves a level of trust in an association or when internal controls are powerless. (Hillison et al., 2009). Intensifying the opportunity to steal is the propensity for associations to put trust in a couple of long-term employees who after some time acquire independence and authority and along these lines have simple access to money related resources, combined with a thorough comprehension of how the framework functions and how to commit the fraud effectively (Kelly & Hartley, 2010).

2.3 Determinants of Financial Performance

2.3.1 Leverage

Leverage is the debt amount that is part of the firm's capital structure. It is measured in form of total debt to assets ratio (Grossmann, 2017), Debt-to-Capital Ratio (Nwanna & Ivie, 2017) and Debt-to-EBITDA Ratio (Halling, Yu & Zechner, 2016). However, Derbali and Jamel (2018) measured leverage in terms of insurance liabilities to shareholder equity. This study will measure leverage in terms of deferred insurance liabilities to shareholder equity. Leverage has shown differing results on its effect on financial performance. Widyastuti (2019); and Nwanna and Ivie (2017) found a positive relationship between leverage and financial performance. However, Saberi and Asadipour (2016); and Dakua (2019) found a negative relationship. On the other hand, Lenka (2017) found no relationship.

2.3.2 Firm size

Firm size as a determinant of financial performance has shown conflicting effect. Firm size is measured in terms of assets (Olawale, Ilo & Lawal, 2017), employees (Ozcan, Unal and Yener, 2017), capital base (Kartikasari & Merianti, 2016), market share (Kuncová, Hedija & Fiala, 2016) or sales revenue (Dang, Li & Yang, 2018). This study will measure firm size in terms of assets. Akinyi and Oima (2019) showed that firm size had a positive effect on financial performance. Ayuba aet al (2019) found a negative relationship between firm size and financial performance. Eyigege (2018) found no significant effect of firm size on financial performance.

13

2.4 Empirical Studies

2.4.1 International Studies

Saiful and Ayu (2019) studied risks management and bank performance based on the empirical evidences from Indonesian conventional and Islamic banks. The sample used consisted of 26 conventional banks and 11 sharia banks in period 2012-2016. This study found that credit, and liquidity risks management positively influence Indonesian banks performance that measured by ROA and ROE. The investigation also indicated that operational risks management directly affected Indonesian banks' performance gauged by ROA, ROE, and net interest margin. This study focused on the general risk management other than fraud risk as for this study. The study was based on banks other than insurance firms. The period of focus was 2012-2016 different from that of this study (2016-2020).

Hussaini, Bakar and Yusuf (2018) studied fraud risk management, risk culture and performance of Nigerian banks. A survey method was employed to administer a total of 417 questionnaires to either the senior officer in the risk management department, internal control department, and branch manager of each bank in the Nigerian banks. The questionnaire is a 5-point Likert-scale. The data was analyzed using Statistical Package for Social Sciences (SPSS) V 23. The initial data screening and cleaning were conducted as an attempt to fulfill the assumptions of multivariate analysis. Hence, the current research assessed missing values, outliers, normality test, collinearity test, common method variance, and test of non-response bias with the help of SPSS. Based on the extant literature, fraud risk management has a positive relationship with bank performance. This study relates to the current study in that it used fraud risk management as a factor influencing performance. However, the study was done in the banking sector other than

Halm-Laryea (2019) studied risk management and profitability of universal banks in Ghana. A total of 10 banks were selected bwteen 2006 to 2016. Based on random effect model, outcomes showed an inverse influence of credit risk on banks' profits. Liquidity showed no influence on banks' profits. Otherwise, capital adequacy ratio, bank size and operational risk showed direct influence on banks' profits whereas inflation had no influence. This study was done in the banking sector other than insurance firms. The study focused on general risk management other than fraud risk management. Profitability was used as the dependent variable other than financial performance. It was carried out in Ghana with the current study done in Kenya.

Ntwali et al (2020) studied claims management and financial performance of insurance firms in Rwanda based on a case of SONARWA General Insurance Company Ltd. This research was carried in terms of a case study. A questionnaire and interview guide were adopted as the data collection instruments. The targeted population included the employees, brokers, agents and claimants in Kigali City. Claims planning, control, monitoring and evaluation showed a significant positive relationship with financial performance. This investigation focused on claims management and financial performance with the current study focusing on fraud risk management and financial performance. Primary data was used other than secondary data as for this study. It also adopted a case study design with the current study adopting a causal-descriptive research design.

2.4.2 Local Studies

Chepkoech and Rotich (2017) studied the effect of risk management process on motor insurance fraud in Kenya. This research employed a descriptive approach, target group being thirty-three insurers that provide services to motor vehicles. The study discovered a link of risk identification, risk assessment, risk reduction, risk monitoring, and motor

insurance fraud in Kenya. The study focuses on risk management and fraud other than fraud risk management and performance as per the current study. The study also uses primary data with the present study using secondary data. Further, investigation uses cross-sectional data with the current study using panel data.

Kiragu (2019) looked at determinants of increased motor vehicle insurance fraud risk. The populace was twenty-eight insurance companies in general category in Nairobi. A total of eighty-four employees. A closed questionnaire was utilized in data collection. From the outcomes, macro-economic, individual, and institutional factors. This study focused on factors influencing fraud risk with the current study focusing on fraud risk management and performance. Further, the research is based on all insurance firms while the current research is based on general insurance firms.

Too and Simiyu (2018) studied firm's characteristics and financial performance of general insurance firms in Kenya. The investigation adopted descriptive survey design. The target populace was 47 insurance firms in Kenya. Data was obtained from the financial statements of individual firms, company annual reports and IRA reports. Data was quantitative in nature and was analyzed using descriptive and inferential statistics. Descriptive statistics related to frequencies, mean, standard deviation and percentages. Inferential statistics related to correlation and multivariate regression analysis. STATA 14 was utilized in generation of statistics. Capital structure showed the greatest impact on financial performance, trailed by firm age and size. Firm size had inverse effect on financial performance whilst firm ownership had no significant effect. This research targeted general insurance firms similar to the present study. Similar to the current study, the research used STATA to generate the statistics. Also, firm size was used for the present study, similar to this study. However, the study was based on firm characteristics and financial performance.

16

Gathu (2018) did research on effects of fraud risk management practices on net incurred medical claims in Kenyan insurance industry. The study focused on collecting primary data on the fraud risk management practices from medical insurance providers. Further, secondary data on net incurred claims ratios, as well industry benchmarks was sought from Insurance Regulatory Authority (IRA). The data collected aided in the determination of possible correlation between independent variables (Corporate governance, fraud preventive practices, fraud detective practices, fraud response & monitoring and market share) and dependent variable net incurred claim ratio through the Pearson correlation test and regression analysis. The study found that most medical insurance providers engage in various proactive and reactive fraud risk management practices which were perceived to have varying levels of effectiveness. Correlation tests indicated that corporate governance, fraud preventive practices, fraud detective practices and fraud response & monitoring practices were significant in predicting the dependent variable of the study (Net incurred claim ratio). Similar to the current study, the study utilized correlation and regression analysis. This investigation used net incurred claims other than financial performance as the dependent variable. The study utilized primary data other than secondary data as per the current study.

2.5 Summary of the Literature Review

This research sought to determine the relationship between fraud risk management and financial performance of general insurance firms in Kenya. Both empirical and theoretical literature on fraud risk management and financial performance has been reviewed in this chapter. The empirical studies have displayed conflicting results with some showing positive while others show negative or no relationship. The local studies have used different variables and measures while at the same time basing their research on other sectors like banking instead of insurance firms. This creates a research gap that

this research sought to address through establishment of the relationship between fraud

risk management and financial performance of general insurance firms.

2.6 Conceptual Framework

Independent Variable   Dependent variable

```
┌─────────────────────────────┐              ┌─────────────────────────────┐
│  Fraud risk management      │──────────────▶│  Financial performance      │
│    • Fraud Loss ratio       │           ▲  │    • Return on Assets       │
└─────────────────────────────┘          ╱   └─────────────────────────────┘
                              ┌──────────╱──────────┐
                              │    • Firm size      │
                              │    • Leverage       │
                              └─────────────────────┘
                                 Control Variables
```
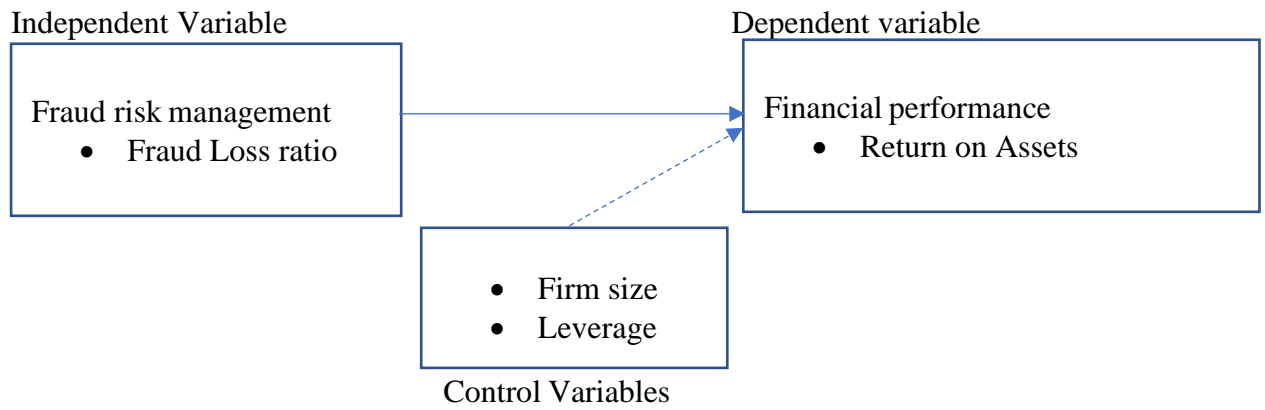
Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This specific part of the paper gave the methodology. Specifically, it gave the research design, population, data collection and data analysis. Data analysis gave the analytical model, diagnostic tests and significance tests.

3.2 Research design

This investigation adopted a causal-descriptive research design. The causal research design enables researcher to establish the relationship between the variables (Karvanen, Tikka & Hyttinen, 2020). This makes it relevant in that this research sought to establish the relationship between fraud risk management and financial performance. Descriptive design enables a researcher to describe data and show the status of the variables without manipulation of results (Siedlecki, 2020). This is relevant to the study in that it enabled the researcher to describe fraud risk management and financial performance without manipulation. A causal-descriptive research design, hence, is relevant to the study.

3.3 Population

This research targeted general insurance firms in Kenya. This research will include the general insurance firms that operated between 1st January 2016 and 31st December 2020. This period will be preferred as it will give the most recent data and avoid the historical limitation of secondary data. Based on insurance regulatory authority, there were 32 insurance firms under general category listed between 2016 and 2020.

3.4 Data Collection

This research was based on secondary type of data. Secondary data is preferred as it easily available and so will save on time and energy (Martins, da Cunha & Serra, 2018). The data was sourced from the annual financial reports of individual firms. The reports were got from the Insurance regulatory authority. For financial performance, the researcher collected data relating to total assets and profit after tax. For fraud risk management the researcher collected data relating to loss due to claims, total premium and adjustment expenses. Leverage data was deferred insurance liabilities and shareholder equity. Firm size data related to total assets. The data was collected using data collection schedule. The schedule contained data relating to the variables for the five years (Appendix II).

3.5 Data Analysis

This research made use of quantitative data analysis methods. This involved descriptive and inferential analysis. Descriptive statistics was used to describe the variables through mean, standard deviation, minimum and maximum. Inferential statistics were utilized to infer relationships between variables. This included the use of correlation and regression coefficients. Correlation was utilized in showing the strength of the relationship of fraud risk management and financial performance. This was done by use of Pearson correlation coefficient. Regression was done to institute effect of fraud risk management and financial performance. This will be done by the use of panel data regression model. The statistics will be generated using SPSS version 25.

3.5.1 Analytical model

Regression model took the form of:

$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon$

20

Where:

Y_{it} is financial performance as gauged by return on assets of firm, i at time t;

α is constant term;

β_1-β_3 is regression$_3$coefficients;

X_{1it} is fraud risk management as gauged by fraud loss ratio of firm, i at time t;

X_{2it} is leverage as gauged by the ratio of deferred insurance liabilities to shareholder equity in firm, i at time t;

X_{3it} is firm size as gauged by logarithm of total assets of firm, i at time t;

ε = error term

3.5.2 Diagnostic tests

Diagnostic tests were done in order to check on data and model. They included normality, Multicollinearity, and heteroscedasticity. Normality test was done through Shapiro Wilk test. Multicollinearity was done through Variance Inflation factors. Heteroscedasticity was checked through Breusch Pagan test.

3.5.3 Significance Tests

In significance test, F-statistics were used. Anova was used to perform the significance testing and generate the F-statistics. The researcher based the significance of 5% level of significance.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This part of the paper analyses info and interprets outcomes from the data. This chapter also provides the discussions of findings where they are compared to other empirical studies.

4.2 Descriptive Statistics

From the data, the descriptive statistics are discussed in this section. They allowed for description of the variable data to show the mean, standard deviation, minimum and maximum.

Table 4.1: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial performance	160	-134.12	107.30	3.3176	16.12779
Fraud risk management	160	.00	1784.52	59.0686	135.72187
Leverage	160	-261.31	131.89	20.1347	35.30714
Firm Size	160	.00	34.00	15.1194	2.00959

From the descriptive statistics, financial performance as measured by ROA had a mean of 3.3176% (SD: 16.1278) for general insurance firms between 2016 and 2020. The insurance firms, on the other hand, showed a mean of 59.068% for fraud risk management as measured by fraud loss ratio (SD: 135.7219). In addition, leverage averaged at 20.1347% (SD: 35.307) for the general insurance firms between 2016 and 2020. Firm size showed an average mean of 15.1194 (SD: 2.01).

4.3 Correlation Analysis

Table 4.2: Correlation Analysis

		Financial performance	Fraud risk management	Leverage	Firm Size
Financial performance	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	160			
Fraud risk management	Pearson Correlation	-.495**	1		
	Sig. (2-tailed)	.001			
	N	160	160		
Leverage	Pearson Correlation	-.420**	.043	1	
	Sig. (2-tailed)	.000	.578		
	N	160	160	160	
Firm Size	Pearson Correlation	.527**	.017	-.038	1
	Sig. (2-tailed)	.000	.829	.624	
	N	160	160	160	160

The researcher undertook a correlation analysis to determine the connection of fraud risk management and financial performance of general insurance firms in Kenya. From outcomes, Fraud risk management (Fraud loss ratio) showed a correlation coefficient of -0.495 with a p value of 0.00. Fraud loss ratio has a weak significant negative relationship with financial performance of general insurance firms in Kenya. Leverage as measured by the ratio of deferred insurance liabilities to equity showed a correlation coefficient of -.420. This coefficient with a p value of 0.00. This shows that leverage has a weak significant negative relationship with financial performance of general insurance firms in Kenya. Finally, firm size (logarithm of total assets) showed a correlation coefficient of 0.527 with a p value of 0.000. It indicates that firm size has a strong significant positive relationship with financial performance of general insurance firms in Kenya.

4.4 Diagnostic Tests

This investigation checked on the assumptions of regression model. They involved normality, multicollinearity, and heteroskedasticity.

Table 4.3: Normality test

	Statistic	df	Sig.
Financial performance	.588	160	.000
Fraud risk management	.176	160	.000
Leverage	.674	160	.000
Firm Size	.435	160	.000

This research adopted Shapiro-Wilk test to check on whether the data was normally distributed. From the outcomes, the variables showed statistics with significance values of less than 0.05. Hence, this research does reject the null hypothesis that the data is normally distributed. It assumes that the data on the financial performance, fraud risk management, leverage and firm size is not normally distributed.

Table 4.4: Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Fraud risk management	.998	1.002
	Leverage	.997	1.003
	Firm Size	.998	1.002

This research sought to test whether the predictor variables had a linear relationship. This was checked by testing multicollinearity utilizing Variance Inflation Factor. The research findings showed that the variables had VIF values below 5 with tolerance variables less than 2. Studies recommended VIF values of less than 5, the data showed very low levels of multicollinearity, hence, the predictor variables do not have a linear relationship.

Table 4.5: Heteroskedasticity

```
------- ANOVA TABLE --------
               SS        df        MS         F        Sig
Model       83.411     3.000    27.804      .665      .636
Residual  7067.124   169.000    41.817  -999.000  -999.000

------- Breusch-Pagan and Koenker test statistics and sig-values --------
              LM       Sig
BP          4.706     .340
Koenker     2.018     .569
```

The study sought to test the heteroskedasticity based on Breusch–Pagan statistics. Outcomes showed a Breusch–Pagan statistic of 4.706 with a significance of 0.340. The significance value is greater than 0.05, hence, there was homoskedasticity in the data. This shows that there are no heteroskedasticity in the data on which this study is based.

4.5 Regression Analysis

Regression coefficients were analyzed to show the effect of fraud risk management on financial performance of general insurance firms in Kenya. This is shown by the model summary and table of coefficients.

Table 4.6: Model Summary

Model Summary[a]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.897[a]	.805	.802	6.18876

a. Predictors: (Constant), Firm Size, Fraud risk management, Leverage

The outcomes of the model summary show an R value of 0.897. It indicates a strong correlation between predictor variables and financial performance. The outcome also shows an R square value of 0.805. This indicates that predictor variables contributed a proportion of 0.805 to the change in financial performance of the sampled general insurance firms in Kenya between 2016 and 2020.

Table 4.7: ANOVA Statistics

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	447.289	3	149.096	5.251	.001[a]
	Residual	4429.848	156	28.240		
	Total	44738.137	159			

a. Predictors: (Constant), Firm Size, Fraud risk management, Leverage
b. Dependent Variable: Financial performance

To check on the model significance, ANOVA was done to generate the F-statistics. The

F-statistics (5.251) was below the critical value of 2.658. This shows that the regression

model provides a good fit to the data. The F-statistics showed a sig value of 0.001 below

the alpha level of 0.05. This shows a significant model.

Table 4.8: Regression Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.698	1.433		-5.372	.000
	Fraud risk management	-.151	.049	-.144	-3.086	.002
	Leverage	-.268	.105	-.249	-2.553	.012
	Firm Size	.623	.195	.528	3.196	.002

a. Dependent Variable: Financial performance

From the data,

$$Y_{it}=\alpha+\beta_1 X_{1it}+\beta_2 X_{2it}+\beta_3 X_{3it}+\varepsilon$$

was fitted to;

$$Y = -7.698-0.151X_{1it}-0.268X_{2\ it}+0.623X_{3it}$$

From the fitted regression analysis, the model showed a constant of -7.698. This shows that if predictor variables were held at a constant zero, financial performance of general insurance firms in Kenya would stand at -7.698. From the fitted model, a unit increase in fraud risk ratio as a measure of fraud risk management would lead to reduction in return on assets as a measure of financial performance of general insurance firms in Kenya by 0.151. The effect is significant as the pvalue of 0.002 is less than 0.05.

Leverage showed that a unit increase would reduce financial performance of general insurance firms in Kenya by -0.268 with a pvalue of 0.012. This indicates that leverage has a significant but negative effect on financial performance of general insurance firms in Kenya. Finally, firm size showed a positive correlation coefficient of 0.623 and a significance level of 0.002. This indicates that firm size has a significant positive effect on financial performance of general insurance firms in Kenya.

4.6 Discussion of Research Findings

From the outcome, fraud loss ratio had a weak significant negative relationship with financial performance. This indicates that fraud risk has a negative relationship with financial performance. Outcomes are the same as Halm-Laryea (2019) who found that credit risk had a negative relation with financial performance. The management of fraud risk would reduce the fraud risks and their negative effects on financial performance. Hence, we can say that fraud risk management would positively influence financial performance. The findings are similar to Saiful and Ayu (2019) who found a positive relationship between risk management and performance.

Leverage indicated by ratio of deferred insurance liabilities to equity showed a weak negative correlation coefficient. This indicates that leverage has a weak significant negative relationship with financial performance of general insurance firms in Kenya.

However, Saberi and Asadipour (2016); and Dakua (2019) found a negative relationship. However, the outcomes were different from those of Lenka (2017) who found no relationship. In addition, Widyastuti (2019); and Nwanna and Ivie (2017) found a positive relationship between leverage and financial performance which is different from the outcomes of this study.

Firm size showed a strong significantly positive correlation coefficient. This shows that firm size has a significant positive relationship with financial performance. The outcome is same as Halm-Laryea (2019) who found that size had a positive effect on financial performance. Akinyi and Oima (2019) indicated firm size displayed positive connection with financial performance. However, they were different from Ayuba aet al (2019) who found a negative relationship between firm size and financial performance. They also differ with Eyigege (2018) who found no significant effect of firm size on financial performance.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This part of the paper summarized the outcomes. It also gave the conclusions and recommendations regarding the research. These are mainly based on the variables used in this research.

5.2 Summary of the Findings

From descriptive statistics, financial performance as measured by ROA had a mean of 3.3176% for general insurance firms between 2016 and 2020. The insurance firms, on the other hand, showed a mean of 59.068% for fraud risk management as measured by fraud loss ratio. In addition, leverage averaged at 20.1347% for the general insurance firms between 2016 and 2020. Firm size showed an average mean of 15.1194.

From the correlation outcomes, fraud loss ratio as a measure of fraud risk management showed weak significant negative relationship with financial performance. Leverage as gauged by the ratio of deferred insurance liabilities to equity showed a correlation coefficient of -.420. This coefficient with a p value of 0.00. This shows that leverage has a weak significant negative relationship with financial performance of general insurance firms in Kenya. Finally, firm size (logarithm of total assets) showed a correlation coefficient of 0.527 with a p value of 0.000. This stipulates that firm size has a strong significant positive relationship with financial performance of general insurance firms in Kenya.

The outcomes of the model summary show an R value of 0.897 indicating strong correlation between the independent variables and financial performance. The outcome also shows an R square value of 0.805. This stipulates that the variables contributed a

proportion of 0.805 to the change in financial performance of the sampled general
insurance firms in Kenya between 2016 and 2020.

From the fitted regression analysis, if predictor variables were held at a constant zero,
financial performance of general insurance firms in Kenya of stand at -7.698. From the
fitted model, a unit increase in fraud risk ratio as a measure of fraud risk management
would lead to significant reduction in return on assets as a measure of financial
performance of general insurers in Kenya. Leverage showed that a unit increase would
significantly reduce financial performance of general insurance firms in Kenya between
2016 and 2020. Finally, firm size showed a significant positive correlation coefficient.

5.3 Conclusions

From the descriptive results, this investigation concludes that fraud loss ratio as a
measure of fraud risk management had a weak significant negative relationship with
financial performance of general insurers in Kenya. It further concludes that fraud risk
management has a positive relationship with financial performance of general insurance
firms in Kenya.

The researcher also reached to the conclusion that leverage has a weak significant
negative relationship with financial performance of general insurance firms in Kenya.
In addition, firm size positively and significantly relates with financial performance of
general insurance firms in Kenya.

5.4 Recommendations

The findings showed that fraud risk ratio had a negative relationship with financial
performance of general insurance firms in Kenya. This research recommends that
general insurance firms in Kenya come up with fraud risk management strategies that
would reduce the fraud risk ratio in the firms. This can be done by doing surprise audits

on the insurance policies and payment of claims. This would enable them to detect any anomalies in the claims paid. They can also ensure frequent rotation of employees especially those in the underwriting department.

The investigation found that leverage had a negative relationship with financial performance. This research recommends that financial performance of general insurance firms in Kenya need to reduce levels of deferred liabilities. This would reduce the leverage ratio which would in turn enhance financial performance of general insurance firms in Kenya. This research indicates that general insurance firms in Kenya increase the levels of shareholders' equity in their capital structure portfolio.

The investigation showed firm size had a positive relationship with financial performance. Hence, this paper recommends that the management of general insurers in Kenya increase level and value of assets within their firms. This would in turn enhance the financial performance of general insurance firms in Kenya.

5.5 Limitations of the Study

This investigation utilized annual data. This may create a limitation for the research in that different periods of research may give different outcomes. This is due to the fact that the data would be sparsely distributed compared to monthly or quarterly data. This investigation was also limited by the parameters used in this research.

The investigation was based on fraud risk management and financial performance. Adoption of different predictor variables may have different relationship with financial performance. The research adopted ROA as a measure of financial performance of general insurance firms. This also limits the study. The study was also limited by its focus on general insurance firms in Kenya. A focus on life insurance or other firms may

show differing results. The research was also limited by the period. It focused on the period of 5 years. A focus on a different period like 10 years may give different results.

5.6 Suggestions for Further Research

The investigation was based on annual data. This research recommends a study based on monthly or quarterly data. This investigation was also limited by the parameters used in this research. The investigation was based on fraud risk management and financial performance. Research based on other variables other than fraud risk management is recommended.

The research adopted return on assets as a measure of financial performance of general insurance firms. This research recommends same study based on a different measure like return on equity, net profit margin or gross profit margin. This research was also limited by its focus on general insurers in Kenya. Research focusing on life insurance firms is recommended to compare results. The research was also limited by the period. It focused on the period of 5 years. A future study should focus on a different period like 10 years to compare outcomes.

.

REFERENCES

Akinyi, R. T., & Oima, D. O. (2019). Effect of Firm Size on Financial Performance of Sugar Firms in Western Kenya. *International Journal of Education and Research*, *7*(9), 211-218.

Almagtome, A., & Abbas, Z. (2020). Value relevance of financial performance measures: An empirical study. *International Journal of Psychological Rehabilitation*, *24*(7), 6777-6791.

Ayuba, H., Bambale, A. J. A., Ibrahim, M. A., & Sulaiman, S. A. (2019). Effects of Financial Performance, Capital Structure and Firm Size on Firms' Value of Insurance Companies in Nigeria. *Journal of Finance, Accounting & Management*, *10*(1), 270-290.

Boateng, A. A., Boateng, G. O., & Acquah, H. (2014). A literature review of fraud risk management in micro finance institutions in Ghana. *Research Journal of Finance and Accounting*, *5*(11).

Chepkoech, F., & Rotich, G. (2017). Effect of risk management process on motor insurance fraud in Kenya. *International Journal of Social Sciences and Information Technology*, *3*(3), 1934-1951.

Dakua, S. (2019). Effect of determinants on financial leverage in I ndian steel industry: A study on capital structure. *International Journal of Finance & Economics*, *24*(1), 427-436.

Dang, C., Li, Z. F., & Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of banking & finance*, *86*, 159-176.

Derbali, A., & Jamel, L. (2018). Determinants of performance of Tunisia insurance companies: Case of life insurance. *International Journal of Productivity and Quality Management*, *24*(4), 531-542.

Eyigege, A. I. (2018). Influence of firm size on financial performance of deposit money banks quoted on the Nigeria Stock Exchange. *International Journal of Economics and Financial Research*, *4*(9), 297-302.

Gathu, T. G. (2018). Effects of fraud risk management practices on net incurred medical claims in Kenyan insurance industry (Doctoral dissertation, Strathmore University).

Ghorbani, A., & Farzai, S. (2018). Fraud detection in automobile insurance using a data mining-based approach. *International Journal of Mechatronics, Elektrical and Computer Technology (IJMEC)*, *8*(27), 3764-3771.

Grossmann, D. (2017). Leverage Ratios for Different Bank Business Models. *Credit and Capital Markets*, *50*(4), 545-573.

Halling, M., Yu, J., & Zechner, J. (2016). Leverage dynamics over the business cycle. *Journal of Financial Economics*, 122(1), 21-41.

Halm-Laryea, K. (2019). Effect of Risk Management on The Profitability of Universal Banks in Ghana (Doctoral dissertation, University of Ghana).

Hess, F. & Cottrell, J. H. (2016). Fraud Risk Management: A business perspective. *Business Horizons*, *59*(1), 13-18.

Hussaini, U., Bakar, A. A., & Yusuf, M. B. O. (2018). The Effect of Fraud Risk Management, Risk Culture, on the Performance of Nigerian Banking Sector: Preliminary Analysis. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *8*(3), 224-237.

Iyer, N., & Samociuk, M. (2016). Fraud and corruption: Prevention and detection. Routledge.

Izzalqurny, T. R., Subroto, B., & Ghofar, A. (2019). Relationship between Financial Ratio and Financial Statement Fraud Risk Moderated by Auditor Quality. *International Journal of Research in Business and Social Science (2147-4478)*, *8*(4), 34-43.

Kartikasari, D., & Merianti, M. (2016). The effect of leverage and firm size to profitability of public manufacturing companies in Indonesia. *International Journal of Economics and Financial Issues*, *6*(2), 409-413.

Karvanen, J., Tikka, S., & Hyttinen, A. (2020). Do-search: A tool for causal inference and study design with multiple data sources. *Epidemiology*, *32*(1), 111-119.

Kiragu, D. N. U. (2019). Drivers of motor vehicle insurance fraud risk: Empirical evidence from insurance companies in Kenya. *International Journal of Economics, Commerce and Management*, 7(2), 290-310.

Kolapo, F. T., & Olaniyan, T. O. (2018). The impact of fraud on the performance of deposit money banks in Nigeria. *International Journal of Innovative Finance and Economics Research*, *1*(6), 40-49.

Kuncová, M., Hedija, V., & Fiala, R. (2016). Firm size as a determinant of firm performance: The case of swine raising. *Agris on-line Papers in Economics and Informatics*, *8*(6), 77-89.

Lenka, S. (2017). The relationship between company returns and leverage depending on the business sector: Empirical evidence from the Czech Republic. *Journal of Competitiveness*, *9*(3), 98-110.

Li, Y. (2020). The effects of external debt financing and internal financing on firm performance: empirical evidence from automobile listed firms (Master's thesis, University of Twente).

Madah Marzuki, M., Nik Abdul Majid, W. Z., Azis, N. K., Rosman, R., & Haji Abdulatiff, N. K. (2020). Fraud Risk Management Model: A Content Analysis Approach. *The Journal of Asian Finance, Economics, and Business*, *7*(10), 717-728.

Martins, F. S., da Cunha, J. A. C., & Serra, F. A. R. (2018). Secondary data in research– uses and opportunities. *PODIUM sport, leisure and tourism review*, *7*(3).

Mawutor, J. K., Enofe, A., Embele, K., Ndu, A. R., & Awodola, O. E. (2019). Fraud and Performance of Deposit Money Banks. *Accounting and Financial Research*, *8*(2), 202-213.

Mwangi, S. W., & Ndegwa, J. (2020). The Influence of Fraud Risk Management on Fraud Occurrence in Kenyan listed Companies. *International Journal of Finance & Banking Studies (2147-4486)*, *9*(4), 147-160.

Ntwali, A., Kituyi, A., & Kengere, A. O. (2020). Claims Management and Financial Performance of Insurance Companies in Rwanda: A Case of SONARWA General Insurance Company Ltd. *Journal of Financial Risk Management*, *9*(03), 190.

Nwanna, I. O., & Ivie, G. (2017). Effect of financial leverage on firm's performance: A study of Nigerian banks (2006-2015). *International Journal of Recent Scientific Research*, *8*(7), 18554-18564.

Olawale, L. S., Ilo, B. M., & Lawal, F. K. (2017). The effect of firm size on performance of firms in Nigeria. *Aestimatio: The IEB International Journal of Finance*, *3*(15), 68-87.

Ozcan, I. S. İ. K., Unal, E. A., & Yener, U. N. A. L. (2017). The effect of firm size on profitability: evidence from Turkish manufacturing sector. *Journal of Business Economics and Finance*, *6*(4), 301-308.

Purpura, P. (2017). Security and loss prevention: An introduction. Butterworth-Heinemann.

Saberi, S., & Asadipour, E. (2016). Investigating the Relationship between Financial Growth and Strength with Leverage Ratios of Companies Listed inTehran Stock Exchange. *International Journal of Humanities and Cultural Studies (IJHCS) ISSN 2356-5926*, *1*(1), 1994-2006.

Saiful, S., & Ayu, D. P. (2019). Risks management and bank performance: The empirical evidences from indonesian conventional and islamic banks. *International Journal of Economics and Financial Issues*, *9*(4), 90.

Samociuk, M., Iyer, N., & Doody, H. (2017). A short guide to fraud risk: Fraud resistance and detection. Routledge.

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, *34*(1), 8-12.

Tan, C., & Swan, L. (2020). Fraud on the performance of deposit money banks in China. *The International Journal of Social Sciences World (TIJOSSW)*, *2*(01), 1-9.

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal*, *15*(1), 93-106.

Too, I. C., & Simiyu, E. (2018). Firms' characteristics and Financial Performance of general insurance firms in Kenya. *International Journal of Business Management & Finance, 1 (39): 672*, *89*.

Turner, C. (2007). Fraud risk management: a practical guide for accountants. Elsevier.

Widyastuti, M. (2019). Analysis of liquidity, activity, leverage, financial performance and company value in food and beverage companies listed on the Indonesia Stock Exchange. *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS)*, *6*(5), 52-58.

APPENDICES

Appendix I: List of General Insurance Firms In Kenya

1. AAR INSURANCE KENYA

2. AFRICAN MERCHANT ASSURANCE

3. AIG INSURANCE COMPANY

4. ALLIANZ INSURANCE COMPANY

5. APA INSURANCE COMPANY

6. BRITAM GENERAL INSURANCE

7. CANNON ASSURANCE COMPANY

8. CIC GENERAL INSURANCE COMPANY

9. CORPORATE INSURANCE COMPANY

10. DIRECTLINE ASSURANCE COMPANY

11. FIDELITY SHIELD INSURANCE

12. FIRST ASSURANCE COMPANY

13. GA INSURANCE COMPANY

14. GEMINIA INSURANCE COMPANY

15. HERITAGE INSURANCE COMPANY

16. ICEA LION GENERAL INSURANCE

17. INTRA-AFRICA ASSURANCE

18. JUBILEE INSURANCE COMPANY

19. KENINDIA ASSURANCE COMPANY

20. KENYA ORIENT INSURANCE

21. MADISON INSURANCE COMPANY

22. MAYFAIR INSURANCE COMPANY

23. PACIS INSURANCE COMPANY

24. PIONEER GENERAL INSURANCE

25. RESOLUTION INSURANCE COMPANY

26. SAHAM INSURANCE COMPANY

27. SANLAM GENERAL INSURANCE

28. TAUSI ASSURANCE COMPANY

29. THE KENYAN ALLIANCE INSURANCE

30. THE MONARCH INSURANCE

31. TRIDENT INSURANCE COMPANY

32. UAP INSURANCE COMPANY

Appendix II: Data Collection Form

Year	Total assets	Shareholders' equity	Deferred insurance liability	Profit after tax	Paid insurance claims	Adjustment expenses	total earned premiums
	Kshs. '000	Kshs. '000	Kshs. '000	Kshs. '000	Kshs. '000	Kshs. '000	Kshs. '000
2016							
2017							
2018							
2019							
2020							