

**FIRM CHARACTERISTICS, FIRM AGE, INSURANCE REGULATORY FRAMEWORK AND
FINANCIAL PERFORMANCE OF INSURANCE FIRMS LISTED AT NAIROBI SECURITIES
EXCHANGE**

ALLAN OKWENDA ASOLA

**A Research Thesis Submitted to the School of Business and Economics in partial fulfillment of the
requirements for the award of a Degree of Doctor of Philosophy in Finance of Jaramogi Oginga
Odinga University of Science and Technology**

**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

2023

DECLARATION AND APPROVAL

Declaration

This research thesis is my original work and has not been presented for an award of a degree in any other University.


Signature.....Okwenda Asola.....Date.....7/11/2023.....

Allan Okwenda Asola

REG. NO. B161/4169/2020

Approval

This research thesis has been submitted for examination with our approval as university supervisors.

Signature  . Date 07/11/2023.....

Dr. Simeyo Otieno, PhD – Senior Lecturer Department of Accounting and Finance.

Jaramogi Oginga Odinga University of Science and Technology

Signature  . Date 07/11/2023.....

Prof. Maria Onyango, PhD - Professor

Department of Management and Economics,

Jaramogi Oginga Odinga University of Science and Technology.

DEDICATION

This research thesis is dedicated to my Late wife Lucy Achieng Okwenda, whose living spirit, sustain me still.

ACKNOWLEDGEMENT

I am deeply indebtedness to my supervisors Dr. Simeyo Otieno and Prof. Maria Onyango, who played a major role in guiding and encouraging me during this study and offering invaluable comments from the initial stages of this work up to the final write up of this thesis. I would like to thank faculty members at JOOUST, including, Dr. Michael Nyagol,

Dr. Erick Okuto, Dr. Elijah Museve, Dr. Vitalis A. Mogwambo, Dr. Edwin Barasa, and CIFA, CPA Jared Oganda for their support and encouragement.

Most importantly, I want to wholeheartedly thank my whole family and friends, who have always been there for me. Without your constant appreciation I would not have been the person I am today. For those not mentioned but played key roles behind the scenes in making this thesis a success, I say, Thank you very much. May the Favour and Grace of God be with you all.

ABSTRACT

Insurance firms are fundamental in managing risk in an economy. Survival of these firms is pegged on firm characteristics and financial performance keeping them afloat from surging claim costs. Reviewed literature confirms negative performance indicators some of which end-end up in closure of some once registered insurance farms which once did well. A robust business environment is sustained through financially sound insurance subsector. This study sought to establish the influence of identified firm characteristics on financial performance of insurance firms listed at the NSE. Specific objectives of the study were: 1) to determine the influence of firm size on financial performance of listed insurance firms at the NSE, 2) to establish the influence of capital adequacy on financial performance of listed firms at the NSE, 3) to determine the influence of claim costs on financial performance of listed insurance firms at the NSE, 4) to assess the influence of capital structure on the financial performance of listed firms at the NSE, 5) to determine the moderating influence of firm age on the relationship between firm characteristics and financial performance of listed firms in the NSE. The study period 2009 to 2018 captures a declining trend in financial performance within the insurance subsector in Kenya. The study was anchored on Agency theory and supported by Pecking Order theory, and Modigliani and Miller Irrelevance theory. The study adopted a longitudinal design on all six listed insurance firms at the NSE. Secondary data was collected from the Audited financial statements. The study employed panel data, multiple regression analysis and spearman's correlation coefficient. Findings indicated that capital structure had the highest positive and significant influence on financial performance of listed insurance firms while claim costs had a negative correlation with financial performance of the listed firms. Firm age significantly moderated the relationship as it determined cash flows of the listed firms. The study contributes to management practice by enhancing loss provisioning of insurance firms to curb unwarranted liquidity constraints. The study recommends future research of a similar nature through mixed methods incorporating primary data captured from claims managers.

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ACRONYMS AND ABBREVIATIONS

AIO:	African Insurance Organization
AKI:	Association of Kenya Insurers
ANOVA:	Analysis of Variance
CA:	Capital Adequacy
CAR:	Capital Adequacy Ratio
CC:	Claims cost
CEO:	Chief Executive Officer
CMA:	Capital Markets Authority
CS:	Capital Structure
CSE:	Colombo Stock Exchange
EBIT:	Earnings Before Interest and Tax
ER:	Expense Ratio
FGLS:	Feasible Generalized Least Square
GSE:	Ghana Stock Exchange
IJK:	Insurance Institute of Kenya
IRA:	Insurance Regulatory Authority
IRC:	Insurance Regulatory Commission
ISE:	Istanbul Stock Exchange
LLC:	Levin-Lin-Chu

LIC:	Life Insurance Companies
LR:	Linear Regression
LR:	Loss Ratio
NC:	Net Claims
NPR:	Net Profit Margin
NPV:	Net Present Value
NSE:	Nairobi Securities Exchange
OECD:	Organization for Economic Corporation and Development
R&D:	Research and Development
RBC:	Risk Based Capital
ROA:	Return on Assets
ROE:	Return on Equity
ROI:	Return on Investment Ratio
SAS:	Statistical Analysis Systems
SD:	Standard deviation
SPSS:	Statistical Package for the Social Sciences
US:	United States

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Insurance as a concept is approachable from two fronts: transfer school and pooling school. The transfer school of thought states that insurance is a device that reduces uncertainty of one party, known as the insured, a particular risk is transferred by another party; called the insurer, who offers a restoration, at least in part of economic losses suffered by the insured (Irukwu, 2014). On the other hand, the Pooling school of thought asserts that the essence of insurance lies in the elimination of uncertainty or risk of loss for the individual through the combination of large number of similarly exposed individuals (Al-shami, 2008). Insurance operates on the principle of large numbers (pooling risks together) where the people contribute to a common fund in the form of premiums and where the lucky ones who do not suffer losses help the ones who are unlucky ones who suffer losses during a defined insurance period (Irukwu, 2014).

Existence of Insurance firms provide a buffer against risks and uncertainties inherent in business undertakings. This ensures that pooling of resources is centrally done for the benefit of a few companies which experiences negative downturns. Pooling of resources instills resilience in the market as negative eventualities are absorbed leaving the business community at peace. Insurance firms are themselves business entities driven by profit motive to create wealth for their shareholders. For sustainability purposes, insurance firms have to construct their portfolio with prudent asset selection guaranteeing maximum returns to their shareholders (Ahmed., 2010).

The core business of insurance companies is underwriting risks from a diverse clientele domestically and internationally. As risk laden business entities, insurance firms are susceptible to bankruptcy from a

mismatch between revenues and claim costs. To manage this discrepancy, insurance firms need to diversify their long investment prospects to cater for short term liabilities in the form of irregular claims (Arif & Showket, 2015).

Characterization of firms include firm size, capital adequacy, claim costs, capital structure and variety of production capacity and its ability to provide variety of services that firm can provide concurrently to the customers (Nzioka, 2015).

Zou (2004) defined firm characteristics as the demographic and managerial elements that make up the internal environment of a corporation. Kogan & Tian (2012) propose that firm characteristics encompass firm size, leverage, liquidity, sales growth, asset growth, and turnover. Additional factors to consider are the ownership structure, board qualities, dividend declaration, profitability, financing choices, and expansion opportunities (McKnight & Weir, 2008). Firm characteristics are factors that are mostly under the control of management. This study looked at the firm characteristics that include firm size, capital adequacy, claim costs, capital structure and firm age as moderating variable. On the other hand, intervening variable (Insurance Regulatory Framework) is a factor that is beyond the control of management (Sumaira & Amjad, 2013).

Brown (2009) suggests that firm size refers to market value in relation to its competitors. It enables an organization obtain a competitive edge over its rivals through the creation of opportunities and cost reduction through economies of scale. Big insurance companies can effectively diversify their assumed risk, possess a greater capacity to deal with adverse market fluctuations and respond quickly to changes

in market conditions compared to small insurers (Dang, Li. Yang, 2018). Various studies have linked performance of insurance companies to their size (Malik, 2011; Burca & Batrinca, 2014; Velnampy & Niresh, 2015; Batool & Sahi, 2019).

The size of a firm has been demonstrated to have a correlation with industry factors such as sunk costs, concentration, vertical integration, and overall industry profitability. Smaller insurance firms generally have fewer layers of administration, a smaller number of departments, less specialization of skills and responsibilities, less centralization, and less bureaucracy compared to larger insurance companies.

(Brown, 2004).

Capital adequacy provides a loss absorption ability in a financial institution. This buffer cushions an insurance against runs by policy holders and ensures the organization is able to maintain its liquidity and going concern aspect. Shadow banks such as insurance firms need to comply with minimum regulatory capital requirement to manage risks inherent in their operations such as market risk, liquidity risks and counterparty risks (Cao., and Chollete, (2014). Financial crises occur when an economy is hit by shocks if financial institutions rely sufficiently on short term financing so that there is a risk the financing of these firms does not get rolled over. Financing of company assets is dependent on shareholders equity contribution and capital base. Strong capital base cushions creditors from financial losses in case the company is in dire financial straits. (Sangmi & Nazir, 2012).

Claim costs include all expenses paid by the insurance company. For a property and casualty insurance, it would include all expenses for hiring an investigator to take pictures or document the activities of a person with a bodily injury claim. Asokere and Nwankwo (2010) describe insurance claims as a request

made by the insured person to the insurer to pay the benefits agreed upon under a defined policy. It is a demand placed by an individual or Organization against a loss covered by insurance policy (Brooks, Popow & Hoopes, 2015). Claims management is essential and vital to an insurer's success. Well managed claims strengthen customer relationships amidst all odds, assists in regulatory compliance and fraud prevention and detection (Mark, 2004). Claims management is a procedural undertaking emanating from the insured's insurable interest, proximate cause of the loss, eradicating double insurance, final settlement and subrogation in case of general accident cover.

Capital structure decision refers to financing mix of a firm's assets in terms of owners' equity, debt financing, retained earnings and a hybrid of securities such as preferred shareholding. Capital structure is thus the mixture of company's long-term debt, specific short-term debt, common equity and preferred equity for the acquisition of its assets (Myers, 2001). Firm age depicts the lifespan of the company since inception. A company's growth trajectory is a pointer to its strategic competitiveness as older companies have stable clientele, good reputation with lenders and suppliers. Younger companies have huge growth potential but with unpredictable market (Evans, 1987).

As firms grow older, they are characterized by lower rates of failure and low costs to obtain capital (Koh, Durand, Dai, & Chang, 2015) at favourable loan terms. Young firms have a lot to prove about their going concern and may be required to provide a significant amount of collateral to access funding options (Stepanyan, 2012). Insurance Regulatory Authority (IRA) is responsible for administering the Insurance Act and overall oversight of industry players; insurance companies, reinsurance companies, intermediaries, insurance service providers, industry associations, and learning institutions.

Globally, insurance firms have a crucial role in enhancing financial resilience in an economy by consolidating resources. An essential service provided by the insurance company is the facilitation of claims settlement for its customers. The claims settlement procedure plays a crucial role in the provision of insurance services. Insurance firms should prioritize the fast, effective, and efficient settlement of claims through excellent management (Ashturkar, 2014).

The African Insurance Organizations (AIO), which oversees insurance markets worth around \$69 billion, has published its inaugural Africa Insurance Barometer with the objective of enhancing transparency. The research identified a discrepancy between assertions and income as the primary cause of inadequate financial performance. Motor vehicle accident cover is the least lucrative segment of the insurance industry because of the intense competition in motor insurance. As a result, insurance companies have experienced diminished profitability and an increase in fraudulent claims (Kusimo, 2016).

Regionally, in Rwanda, although insurance firms are fulfilling their obligation to pay claims, they continue to get grievances from their clients. The Rwanda National Bank (2018) asserted that a rise in automotive accidents involving motor vehicles in Rwanda has been contributing to the overall profitability of privacy creation. This has occurred due to inadequate evaluation of subcontractor risks and insufficient price protection measures. In order to enhance their earnings, private insurers must effectively establish pricing for their products, diversify their insurance offerings, and implement measures to mitigate fraud. Therefore, the Rwanda National Bank has suggested providing assistance for these initiatives. In 2016, the bank issued a directive outlining the rules for doing insurance business.

Additionally, the directive instructed insurers to establish underwriting and pricing policies that prohibit the sale of insurance on credit.

This study looked on listed insurance firms as their financial records are widely accessible from regulatory requirements. This allows for longitudinal study to be done based on quantitative data of a secondary nature. Listed companies have the advantage of access to a wide pool of funding sources from both developed and developing economies (Rutashobya & Jaensson, 2004).

There is need to regulate and supervise any industry for it to achieve competitive edge. However, there may be challenges that may come with new regulations leading to lack of compliance. Regulators, therefore, must adopt strategies that respond to compliance or non-compliance. Insufficient regulation in the past witnessed poor financial performance from firms operating below requisite capital requirements (Mudaki et al., 2012). Insurance Regulatory Authority of Kenya came in handy to fill this gap. Specifically, UAP group profits declined by 46 percent from Ksh 1.67 billion in 2014 to Ksh 896.6 million in 2015. Similarly, BRITAM had a drastic Ksh 1 billion loss in 2015 after registering a Ksh 2.5 billion profit in 2014 (IRC, 2016).

Performance is the result of the fulfillment of the tasks assigned. Company performance describes how individuals in the company try to achieve a goal. Company performance illustrates the magnitude of the results in a process that has been achieved compared with the company's goal. Firm financial performance points to its worthiness as measured by ratios such as activity ratios, profitability ratios, liquidity ratios, and leverage ratios (Asimakopoulos, 2009).

Financial performance is seen in several organizational approaches. Traditionally, financial performance evaluation is typically divided into three main categories: liquidity/working capital, investment ratios, and gearing, based on predetermined targets (Mahfoudh, 2018). The basic objective of organizations aiming to generate profit is to optimize shareholder wealth. Shareholders, as the legal owners of corporations, should be given priority in the consultation of important decisions concerning the company (Abbasi & Malik, 2015).

Proxies of measuring financial performance could include financial ratios which are essential tools used for measuring the progress in attaining their targeted goals, profitability ratio, activity ratios and liquidity ratios among others. Other measures of financial performance are built in a firm's operations and policies which comprise measures of outputs reflected in return on investment, value added and return on assets among others. In addition, return on sales measures a company's profitability in relation to its sales, return on assets assesses the firm's efficiency in utilizing its assets, and return on equity indicates the investment returns for the investor. Financial performance measures the efficiency with which a company utilizes its resources to generate profits, making it a crucial metric for owners of companies. In well performing organizations, financial performance records are published in annual financial reports as legal documents that are accessible to all public firms for compliance with the legal requirements and information for stakeholders. Other measures of financial performance include Book Value per Share, Earnings per Share, Return on Assets, Dividend per Share, Return on Equity, etc. (Doumpos, 2012).

1.2 Statement of the Problem

Insurance coverage provides a financial resilience. Kibet, Tenai & Muthol (2011), observed that the Nairobi Securities Exchange posted mixed results during their study period. This study was motivated by an urge to explore firms' financial resilience in the insurance industry. The government has put in place measures to ensure favourable business environment in the country. Insurance penetration in Kenya reached its lowest point in the last 15 years where penetration dropped to 2.43 percent of Gross Domestic Product (GDP) in 2018.

The creation of Insurance Regulatory Authority was a response to this; however, it has not cured the declining trends. On its part, IRA and other industry players have partly blamed the drop-in penetration on unpaid claims and businesses and individuals remaining exposed to loss of their property and investments. To the extreme, there are total collapsed insurance companies including Stallion Insurance Company, Lake Star insurance Company among others (Gitau, 2013). Poor financial performance within the broader insurance industry is worth investigating to make informed choices in strengthening this vital risk-cushioning sector.

1.3 Objectives of the study

1.3.1 The General Objective of the study

This study sought to establish the influence of firm characteristics on financial performance of insurance firms listed at the NSE.

1.3.2 Specific Objectives

- i. To determine the influence of firm size on financial performance of insurance firms listed at the NSE.

- ii. To determine the influence of capital adequacy on financial performance of insurance firms listed at the NSE.
- iii. To determine the influence of claim costs on financial performance of insurance firms listed at the NSE.
- iv. To determine the influence of capital structure on financial performance of insurance firms listed at NSE.
- iv. To determine the moderating effect of firm age on the relationship between firm characteristics and financial performance of listed firms at the NSE.

1.4 Research Hypotheses

The following null hypotheses were tested in this study:

H₀₁: Firm size has no significant influence on financial performance of insurance firms listed in the NSE.

H₀₂: Capital adequacy has no significant influence on financial performance of insurance firms listed in the NSE.

H₀₃: Claim costs has no significant influence on financial performance of insurance firms listed in the NSE.

H₀₄: Capital structure has no significant influence on financial performance of insurance firms listed in the NSE.

H₀₅: Firm age does not moderate the relationship between firm characteristics and financial performance of listed firms in the NSE.

1.5 Significance of the Study

Management of insurance firms benefit from this study as it identifies positive correlation between firm assets and financial performance. It also reveals the cushioning effect of adequate capital as a buffer against claim costs and operational requirements.

Policyholders are interested in financially resilient insurance firms capable of indemnifying their losses when they fall due. This study captures the importance of minimum capital adequacy levels and the compliance check by Insurance Regulatory Authority in their monitoring role.

Insurance Regulatory Authority benefits from this study as it captures minimum capital requirements and the resilience created in the market by compliance with statutory requirements. Similarly, the study captures sound capital base as a factor of going concern basis.

In academia, this study adds to knowledge management on the insurance industry in particularly with theory building. Agency problem created by separation of ownership from management is clearly captured in this study by the monitoring role of insurance regulatory authority.

Investors benefit from this study as it points out key financial performance indicators which help in portfolio construction. Similarly, this study points out firm characteristics likely to influence financial performance which aids in financial statement analysis of competing firms.

1.6 Scope

The study included all six insurance firms listed at NSE. The data collected for ten years from 2009 to 2018 from six insurance firms listed at NSE. The study focused on firm characteristics: firm size, capital adequacy, claims costs and capital structure and financial performance: return on assets and return on

equity of insurance firms listed at NSE. The study took ten calendar years. The research design was longitudinal.

1.7 Limitations

The study was limited on its study period 2009 to 2018 capturing only listed firms at the expense of several unlisted insurance industry players.

1.8 Assumption of the study

The assumption of the study was that all the data collected was accurate because they were audited by reputable audit firms.

1.9 Definition of terms

Capital Adequacy- this refers to a company's ability to absorb its losses without recourse to the government. It entails internal buffer ratios such as loss provisioning and reserves base to cater for its liabilities as they arise in an efficient and effective manner.

Capital Structure- depicts a company's financing options for the acquisition of its assets such as equity and reserves, debt, and hybrid sources.

Claims cost- These refers to payouts made when perils covered occur. Claim expenses constitute the largest cost of an insurer hence the need for insurers to take their claim handling functions in a sincere manner.

Financial Performance – this depicts return on assets used in the generation of a firm's mandate. It is this return which goes a long way in rewarding contributors of capital in the form of dividends, capital gains as well as interest payments to debt capital providers.

Firm age – this refers to the lifespan of the company since inception.

Firm size - The size of a business unit means the size of a business firm. It means the scale or volume of operation turned out by a single firm. One of the most important entrepreneurial decisions in organizing a business is realizing its 'size' as it affects in company and profitability of business enterprises.

Performance is a general measure of a firm's actual output or results as assessed against its intended outputs and is thus related to sustainability. The indicators are financial performance (FP), which includes overall profitability, indicated by ratios such as RoI, RoA, and RoE.

Return on Assets - is an indicator of how profitable a company is relative to its total assets. RoA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its assets to generate earnings.

Return on Equity – This captures return on equity holders' capital contribution in terms of earnings per share and capital gains.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

2.2 Theoretical Literature Review

The foundational theory of the study was Agency Theory (Jensen & Meckling, 1976) and supported by Pecking Order Theory (Myers & Majluf, 1984), and M. M. Irrelevance Theory (Modigliani - Miller, 1958).

2.2.1 Agency Theory

Agency theory is a principle that is used to explain and resolve issues in the relationship between principals, with tasks to be accomplished, and their agents who perform assigned duties. The relationship is common between shareholder (principals) and firm directors (agents). The theory posits that a firm's capital is defined by agency costs, encompassing the costs associated with both debt and equity issuance. The costs associated with an equity issue may encompass the expenses incurred for monitoring the actions of the equity holders, the costs of ensuring the commitment of the managers, and the decrease in the well-being of the equity holders resulting from the deviation of the managers' decisions from those that optimize the well-being of the equity holders. In addition, issuance of debt creates an agency problem where firm directors take high risk projects with a view to higher returns at the expense of bankruptcy costs. If debt holders anticipate this, a higher premium will be required which in turns increase the costs of debt. Agency costs of debt issuance consists of monitoring costs by the lenders in terms of site visits and off-site analysis of transactions. Similarly, lenders will incur additional insurance costs and legal costs associated with liquidation proceedings together with reorganization endeavors (Hunsaker, 2019). Consequently, there is need for a trade-off in the construction of debt-equity mix to limit agency costs; both Shareholders-directors differences and bondholders-directors differences (Jensen and Meckling, 1976).

Shareholders-Directors Differences

These stem from separation of ownership and control. Managers control decision making platforms in investment activities of firms yet, in most cases, they do not bear negative consequences of their managerial decisions as shareholders. To curb this indifference to decision making, firms need to

remunerate managers through share options making them part owners of firms they manage. Jensen (1986) contends that managers, rather than prioritizing the maximization of business value in line with shareholders' interests, have a preference for expanding the size of the firm in order to get control-related advantages. Managers are motivated to expand their firms beyond the ideal size and approve projects with negative net present value (NPV). Excessive investment can be exacerbated by increased cash flow and decreased prospects for growth. Issuing debt serves as a means to address agency concerns by obligating the corporation to make cash payments, so preventing managers from investing in projects with negative net present value (NPV).

Bondholder-Directors Differences.

The shareholders or agents make decisions of transferring wealth from bondholders to shareholders. The bondholders are aware of the situations in which this wealth expropriation may occur and shall charge a higher interest rate than before. The differences may be minimized by growth firms than value firms. Convertible debt mitigates this anomaly as they have lower agency costs than plain debt (Jensen and Meckling, 1976).

According to Perrow (1986), Agency theory lacks a clearly defined problem that it aims to solve, and it is difficult to test empirically because it seldom attempts to explain real-world events or make predictions. The theory is also inadequate in its scope as it ignores other stakeholders not directly linked with operational matters. (Shankman, 1999, p. 332). In addition, the theory emphasizes the role of contractual setups as foundational in instilling integrity between principal and agents eliminating

information asymmetry. Agency theory posits that shareholders only care about earnings per share whereas managers are only limited to generating returns for shareholders. Directors on the other hand are only interested in monitoring managers (Eisenhardt, 1989; and Shleifer & Daily, 2003).

Agency theory was key in this study as it depicted consequences of managerial decisions impacting return on assets and return on equity connoting financial performance. Both shareholders and bondholders rely on monitoring role of directors to ensure that firm managers perform optimally for the benefit of their principals.

2.2.2. Pecking Order Theory

This study aims to elucidate the notable correlation between a company's capital structure and its financial success, using the pecking order theory. The theory posits that corporations tend to choose utilizing internal sources of funding over external sources, based on empirical evidence. Companies possess the ability to obtain loans from external sources in the event that they possess insufficient resources to finance their investments. Therefore, they will reduce additional expenses by obtaining funds from other financial sources. Typically, investors would seek access to asymmetric information in the event of a business failure (Lilienfeld-Toal & Ruenzi, 2014).

Pecking order theory has the following order of financing hierarchy; internal source of funds, low risk debt financing and equity financing. This theory assumes that managers have insider advantage over the firm's prospects compared to potential investors based on asymmetric information. Reserves allow managers avoid public disclosure about company prospects. In addition, the theory assumes that agents

(managers) would act in the best interest of their principal (shareholders) by disclosing all profits received in the course of their employment. Ethically, managers shall even shelve some good investment prospects if these would dilute current shareholder value. (Myers & Majluf, 1984).

Nevertheless, the pecking order theory falls short in its ability to elucidate the impact of taxation, financial crisis, security issuance costs, agency expenses, and the range of investment alternatives accessible to a company on its real capital structure. It disregards the potential issues that may occur when a company's managers accumulate a significant amount of financial resources, leading them to be unaffected by market forces.

The relevance of this study was that all firms need to expand their businesses at the cheapest of source of finance. The theory highlights the order of raising finances for firm operations. The pecking order theory is important because it signals the public how the company is performing. If a company finances itself internally, that means it has a strong financial base. If a company finances itself through debt, it is a signal that management is confident the company can meet its monthly obligations. If a company finances itself through issuing new stock, it is normally a negative signal, as the company thinks its stock is overvalued and it seeks to make money prior to its share price falling.

2.2.3 Modigliani Miller Irrelevance Theory

Modigliani - Miller (1958) theory is considered the greatest breakthrough in theory of optimal capital structure. The theory specifies the financial decisions by firms that are irrelevant to the firm's value. According to Modigliani, there are four prepositions as follows: -

- i.) The valuation of a company remains constant irrespective of whether it chooses to raise funds through debt or equity. The weighted average cost of capital remains consistent. The Modigliani-Miller theorem assumes the presence of perfect and efficient markets, where there are no costs associated with transactions, no risk of default, and no taxation. It also assumes that both firms and investors have the ability to borrow at the same interest rate. Additionally, there is an assumption of homogenous expectations, homogeneous risk, and equal access to all necessary information for both firms and investors.
- ii.) RoE is positively correlated to debt ratio as high leverage translates to high expected RoE.
- iii.) The distribution of dividends has no effect on firm's market value but affects debt-equity mix.
- iii.) In order to decide an investment, a firm should expect a rate of return at least equal to cost of capital no matter where the finance would come from. Hence, the marginal cost of capital should be equal to the average cost of capital. The constant cost of capital is sometimes called the "hurdle rate" (the rate required for capital investment).

In summary the theory posits that firm value is invariant with respect to its leverage policy in an arbitrage-free market when there is no corporate income tax and no bankruptcy cost whether firm is financed through debt or equity, its value remains the same.

Haugen (1978) advanced the theory by incorporating the concept of bankruptcy costs and their impact on the value of the indebted company. The costs mentioned encompass liquidation fees, legal fees, and reorganization costs that might arise in the event of the firm's bankruptcy. Therefore, a company with a greater amount of debt would have higher costs associated with bankruptcy compared to a company with less debt.

Berens (2015) corporate finance researchers have long been puzzled by low corporate debt ratios given debt's corporate tax advantage. This article recognizes that firm value typically reflects a growing stream of earnings, while current debt reflects a non-growing stream of interest payments. The value of debt is therefore a distorted measure of corporate tax shielding. Even with very small debt-related costs, this may explain the observed magnitude and cross-sectional variation of debt ratios. Since this variation may be independent of tax shielding, debt ratios provide an inappropriate framework for empirically examining the trade-off theory of capital structure.

Shuetrim, Lowe & Morling (2019) noted flaws in the first proposition of the theorem and stated that the cash flows of the firm are divided between debt holders, equity holders and the government, and that the capital structure of the firm that maximizes its value will be the one that minimizes the portion of cash flows that go to the government in the form of taxes.

Some of the problems of MM approach are due to imperfect markets, transaction costs, floatation costs and uncertainty of future capital gains and the preference for current dividends. Perfect Capital Markets do not exist in the practical world. M-M theory is also criticized for the reason that it ignores the corporate taxation and personal taxation. It also ignores personal aspect of financing through retained earnings. In real world, corporate will not pay out the entire earnings in the form of dividends.

2.3 Empirical Literature Review

2.3.1 Financial Performance

Financial performance refers to the degree to which financial objectives are accomplished. It shows Organization's financial sustainability (Bhunia, Mukhuti & Roy 2011). Financial performance of business Organization is measured with the use of financial ratios. Abate (2012) defines financial ratios

as a class of financial metrics depicting prudent management of assets against liabilities as and when they fall due. Most frequently used financial performance metrics in insurance business are RoA, RoI and RoE (Carton, 2004; Al-Shami, 2008; Malik, 2011; De Villiers, 2012; Delen, Kuzey & Uyar, 2013; Turley & Robbins 2015).

Erasmus (2008) suggested that company stakeholders could use a variety of measures capturing financial performance such as profitability ratios as well as liquidity predictors in a time series manner. A financially sound institution reflects positively on the general economy. Similarly, Naser & Mokhtar (2004) posited that financial performance is a reflection of prudent use of available resources in achieving both peripheral activities as well as core mandate of the firm in an effective and efficient manner. This allows for a comparative analysis on a particular industry.

Financial performance is multifaceted in approach with measures including RoA, RoE as well as profit growth, employee growth and asset growth (Wei, 2012; & Jim, 2007). Organizational performance connotes efficient management of resources with a view to gaining competitive advantage either financially or non-financially (Chen and Wong, 2004). Financial performance is depicted in three ways; first, efficient channeling of inputs to outputs. Second, profitability which compares revenues to costs. Third, market premium, indicating the excess of market value over book value (Walker, 2001). Performance indicators include Return on Assets (RoA), profit margin, earnings before interest and tax (EBIT), Economic Value Added (EVA), and sales growth. The assessment of a company's financial performance is often conducted using conventional accounting metrics such as Return on Assets (RoA), Operating Profit Margin, Earnings before Interest and Tax (EBIT), Economic Value Added (EVA), and Sales Growth (Crabtree & De Busk, 2008).

Return on Assets

Return on Asset (RoA) reveals how much profit a company earns for its assets (Delen et al, Kuzey & Uyar, 2013). It indicates how profitable a company is relatively to its assets. It gives an idea as to how efficient management is in using its assets to generate earnings. Assets include cash in bank, account receivable, property, equipment, inventory and furniture. The higher the firms return on total assets, the better the firm is.

Return on assets indicates the profitability of a company as it relates to the total assets of the company. It gives a clue as it relates to whether management of the company has been efficient in using assets of the company in generating earnings. Return on assets is the most appropriate measure of the performance of a company and when there is an increase in RoA ratio it portrays positive financial performance of relative business and vice versa (Epps & Cereola, 2008).

Return on Assets denotes efficiency with which company assets generate revenues to the firm, a measure used by investors as a yardstick on effective utilization of company assets. The higher the RoA the better the organization is in managing its assets (Philip, 2009). Gilchrist (2014) observed that RoA is a superior connotation of financial performance as it captures prudent use of company resources irrespective of funding source unlike return on equity which is biased to equity shareholders.

Return on Equity

Return on Equity (RoE) measures overall firm performance. It compares net profit after taxes (minus preferred stock dividend, if any) to the equity that shareholders have invested in the firm (Mankai & Belgacem, 2013). A high return on equity often reflects the firm's acceptance of strong investment opportunities and return on the ownership interest (shareholder's equity) of common stakeholders. Therefore, it shows how effective a company is in using investment funds to generate earnings.

Return on equity (RoE) is a financial performance metric derived by dividing net income by shareholders' equity. RoE, or return on equity, is a measure of a company's profitability that is calculated by subtracting its debt from its assets. It represents the return on the company's net assets. Return on Equity (RoE) is a financial metric that evaluates a company's profitability in accordance to the amount of equity invested by its shareholders. This measure translates to earnings per share which is a key determinant on shareholder wealth maximization narrative. In addition, shareholders both current and potential, manage their portfolios based on the dividends declared or homemade (Davison, 2010; World Bank, 2014).

The formula for RoE is $\text{Return on Equity (RoE)} = \text{EBIT} / \text{Shareholder's Equity}$. It is considered best practice to calculate RoE based on average equity over a period because of the mismatch between the income statement and the balance sheet

2.3.2 The Firm Size and financial performance

In a study conducted by Kigen (2014), the impact of company size on the profitability of insurance firms in Kenya was examined. This study investigated the impact of total assets, leverage, and market share on profitability. Return on assets is an essential indicator for assessing the profitability of insurance firms. It is calculated by dividing the before-tax profit by the total assets. The study used profitability, measured by return on assets (RoA) and return on equity (RoE), as the dependent variable. The independent variable included business size, capital adequacy, claim costs, and capital structure. A census study was conducted on 48 insurance firms, both general and long-term, for the period of 2009-2013. The researcher acquired secondary data by extracting information from the financial statements of insurance businesses and yearly reports provided by the Insurance Regulatory Authority. The investigation was of a quantitative kind. A regression model was employed to assess the secondary data. The findings indicated that there was no statistically significant correlation between profitability and total assets. However, there was a positive correlation observed between firm size, market share, leverage, and profitability of the insurance companies. The report advised that in order to enhance profitability, both general and long-term insurance businesses should undertake initiatives aimed at augmenting their market share. This entails the recruitment of additional agents and an augmentation of marketing efforts through the utilization of social media advertising.

A critique with this study is that the researcher depended on secondary data, namely reported accounting financial statements. Consequently, the trustworthiness and quality of the data utilized were not completely assured. The researcher lacked control over the quantity and format of data, resulting in a scarcity of data. Additionally, certain financial statements utilized in the study were insufficient in providing necessary information, requiring the researcher to seek additional facts and become acquainted with other empirical studies that employed similar data sets. Regression analysis assumes

linearity in the different models, which may not always hold. The regression model is only valid under the assumption that all factors remain constant, which may not be the case due to the dynamic nature of the environment.

The findings of this study may not be applicable to all insurance companies worldwide, but they can serve as a valuable reference for companies in developing countries. These companies face similar challenges due to prevailing economic conditions, unlike companies in developed countries. The parameters under consideration continually vary from one time to another, based on the prevailing economic conditions and market demand.

The research gap in this study lies in the fact that the current research is limited to a descriptive research design focused on the insurance sector in Kenya. Subsequent research endeavors should involve a longitudinal case study approach, allowing for a comprehensive examination of a specific population or incident.

Malik (2013) examined profitability determinants of Pakistani insurance companies from 2005 to 2009. Using financial statements of 34 firms, variables tested in the study were age, size, volume of capital, leverage and loss ratio as independent variable. Descriptive and inferential statistics were performed to determine the profitability among Pakistan insurance companies. Results showed that there was a positive and statistically significant relationship between profitability and size. The study failed to look

at influence of the mediating variable effect which could adversely or favourably affects both firm size and financial performance.

Velnampy & Niresh (2014) studied the title, Firm Size and Profitability of Listed Manufacturing Firms in Sri Lanka. The objective of the study explored the effects of firm size on profitability of quoted manufacturing firms in Sri Lanka. In this study, 15 companies were active in Colombo Stock Exchange (CSE) between the year 2008 and 2012. The indicators of firm profitability were Return on Assets and Net Profit while Total Assets and Total Sales were indicators of firm size. Correlation and regression analysis methods were employed in the empirical analysis. The finding revealed that there was no positive relationship between firm size and profitability of listed manufacturing firms. In addition, the result showed that firm size had no significant impact on profitability of the listed manufacturing firms in Sri Lanka.

Dogan (2013) investigated the effect of firm size on the firm profitability, evidence of firms listed in the Istanbul Stock Exchange, Turkey. The objective of this study was to investigate the effect of firm size on profitability. The data of 200 companies were active in Istanbul Stock Exchange (ISE) between the years 2008 and 2011 was used in the study. Firm profitability proxied by Return on Assets (RoA) was dependent variable while total assets, total sales and number of employees were independent variables of firm size. Multiple regression and correlation methods were used in empirical analyses. The result of the analysis indicated that there was a positive relationship between firm size and profitability. Control variables, age of the firms and leverage had a negative statistically significant relationship with RoA, however, liquidity ratio and RoA had a positive statistically significant relationship. Similarly, there was a strong positive statistically significant correlation between liquidity and Return on Assets. In other

words, the increase in the short-term solvency of the firms listed in ISE goes together with an increase in their profitability. The increase in liquidity ratio of the firms caused a decrease in liquidity risk and this situation caused an increase in profitability. The study was limited on its use of secondary data on 200 listed companies at the Istanbul Stock Exchange from 2008 to 2011.

2.3.3 Capital adequacy and financial performance.

Otwani (2017) established capital adequacy and financial performance of listed firms at the NSE. Capital adequacy was measured by four constructs; the capital adequacy ratio, leverage ratio, economic capital measure, and liquidity ratios. Findings indicated the existence of a positive and statistically significant relationship between capital adequacy and financial performance of companies listed on the NSE in Kenya.

Cummins, (2016) studied the title of Capital adequacy and insurance risk-based capital systems. This article had two main objectives: 1) to provide an empirical analysis of insolvency experience, capitalization, and causes of insolvencies in the U.S. insurance industry; and 2) to provide a comparative analysis and evaluation of the U.S. risk-based capital (RBC) system, the EU's Solvency system, and the Swiss Solvency Test (SST). The results indicate that the U.S. RBC system was not an accurate predictor of insurer insolvencies. The U.S. solvency surveillance system needed to be revised to bring it up to current international standards by introducing stochastic modeling and market- consistent valuation. The results of internal company models should be incorporated in regulatory solvency surveillance, but regulators also should develop standard stochastic regulatory models to determine minimum capital

standards. U.S. regulation should also formally incorporate qualitative evaluations such as an own-risk and solvency assessment process.

2.3.4 Claim costs and financial performance

Gonga (2017), investigated determinants of financial performance of selected insurance firms in Nairobi County. The target population was 55 licensed insurance firms and 42 locally owned insurance firms and 13 Foreign owned insurance firms. The study used two respondents in each insurance firm who were Finance Managers and Corporate Affairs Managers and all these had total of 96 respondents. The study used both primary and secondary data. The main primary data source was semi structured questionnaires. The data was analyzed qualitatively and quantitatively using percentages, means and frequency distribution with the aid of Statistical Package for Social Sciences (SPSS) version 17.

Since data was descriptive, such as means, frequencies and percentages were used to describe the findings of the study. The study utilized the Bivariate - ANOVA statistical data analysis technique to identify the factors that influence the financial performance of several insurance companies in Nairobi County. The study determined that insurance companies possessed liquid assets that facilitated the settlement of claims, particularly in cases where their underwriting revenue was insufficient to meet the claims. If the firms do not have sufficient funds to resolve claims, they would divest their investments. The majority of insurance companies depended on cash flow from operations for liquidity management. This suggests that all companies have a specific source of capital for managing their liquidity. The study suggests that insurance companies should create a balanced portfolio of assets and liabilities, specifically

in terms of cash flows. Additionally, they should establish a reserve to mitigate the impact of low interest rates, which can lead to discrepancies in earnings.

Yusuf & Dansu, (2018), conducted a study on the effect of claim costs on insurers' profitability in Nigeria with the objective examining the relationship between claims cost and profitability in the Non-life sector of the Nigerian insurance industry. The study also developed two linear regression models that could be used to forecast future events in the industry. Data were generated from the financial statements of ten (10) insurance companies covering a period of ten years (2002 – 2011). These data were analysed using descriptive statistics, coefficient of determination (R^2), ANOVA (F), standard error test, test of correlation (T), multiple linear regression and ordinary least square regression techniques. In addition, two hypotheses were also tested. Findings revealed that profitability correlates directly with Net Claims and Expense Ratio but correlates inversely with Loss Ratio. In addition, for every one percentage increase in net claims, there would be a corresponding increase of 36.7 percent in Loss Ratio.

Afolabi (2018) examined the effect of claims payments on the profitability of insurance companies in Nigeria from 2011 to 2016. Secondary data was generated from financial statements of two selected insurance companies. Using descriptive statistics and the multiple regression techniques, the data was analyzed with the aid of the Statistical Package for Social Sciences (SPSS version 23). Results indicate that RoA (profitability) had an indirect relationship with LR (loss ratio) and NC (net claims), but a direct relationship with ER (expense ratio). In addition, net claims have a significantly positive impact on loss ratio. The study recommends that the Nigerian insurance industry must effectively manage their claims processes, in order to reduce the number of claims for every earned premium.

Yusuf, (2015) investigated claims handling process and organizational productivity of 33 insurance companies in Nigeria. Using regression analysis on primary data, findings indicated that prudent claims handling improves organizational financial performance by reducing excess short-term liabilities. The study recommended that claims managers should put forward strategic plans to ensure that insurance claims files are properly kept, monitored and handled for needs that may warrant its usefulness in the future. In addition, governments should harmonize their resources and technical know-how with the Nigerian insurance industry in ensuring that insurance claims are well designed to curtail fraudulent claims experienced in the past.

2.3.5 Capital structure and financial performance

Abor (2005) studied the relationship between capital structure and profitability of 25 listed insurance firms on Ghana Stock Exchange (GSE) between 1998 and 2002. Regression analysis revealed that profitable firms used more short-term debt and that long-term debt had a negative and significant correlation with return on equity. The study recommended an appropriate mix of capital structure to enhance profitability. Reserves eliminate higher cost of financing to an organization thus improving profitability.

The gap is that the study was done in Ghana on only insurance firms quoted on the stock exchange. It differs from this study because of the intervening and moderating variables were not considered in the

study while this study includes these variables and insurance firms were studied in a different environment.

Taani, (2013), examined the relationship between Capital Structure and Firm financial Performance of 45 listed manufacturing firms at the Amman Stock Exchange in Jordan from 2005 to 2009. Multiple regression analysis was applied on financial performance such as Return on Assets and Net Profit Margin as well as Short-term debt to Total assets, Long term debt to Total assets and Total debt to Equity were independent variables as a measure of capital structure. The results indicated that there was a negative and insignificant relationship between Short-term debt and Total assets and also between Long-term debt and Total assets, as well as RoA and Net Profit Margin; while Total debt to Equity was positively related to RoA and negatively related to Net Profit Margin. Short-term debt to Total assets were significant using RoA while Long term debt to Total assets was also significant using Profit Margin. The study concludes that statistically, capital structure was not a major determinant of firm financial performance. It recommended that managers of manufacturing companies should exercise caution while choosing the amount of debt to finance their operations.

Ndirangu (2008) examined the relationships between the Capital Structure and Financial Performance of Insurance Companies in Kenya during the period of 2006 to 2009. Utilizing a descriptive survey to analyze financial statements. The findings revealed a weak but statistically significant positive correlation between capital structure and financial performance. The study revealed that the debt to equity ratio had a relatively lower impact on the financial performance of all three categories of insurance companies. The capital structure of a corporate organization is crucial because it allows for the

optimization of returns to different components within the organization. Additionally, this decision has a significant impact on the organization's capacity to effectively navigate its competitive and unpredictable environment. The capital structure decision is crucial for any business organization as it aims to optimize returns for different components within the company. Additionally, this decision significantly affects the firm's capacity to efficiently navigate its competitive and turbulent environment.

2.3.6 Moderating effect of Firm Age and Financial Performance

In their study, Rafiq, Salim, and Smyth (2016) analyzed the research and development activities as well as the financial performance of mining companies in China and the United States. The study was influenced by the age of the firm. Coarsened Exact Matching analysis revealed that the turning point for research and development, where there was a shift from negative to positive improvement in profits and sales, occurred at 37 years and 22 years, respectively.

Pervan, Pervan, and Ćurak (2017) found that the age of a company has a moderating effect on the financial performance of the Croatian food industry between 2005 and 2014. Regression analysis was conducted on a sample of 956 firms, and the results showed that firm age had a statistically significant negative moderating effect on financial performance. As organizations mature, they get advantages from their acquired expertise in all essential facets of the industry.

Kristiansen, Furuholt, and Wahid (2013) investigated how the efficiency of microfinance institutions is influenced by the firm's role, and how this in turn affects their financial success. The findings revealed that the age of a firm had a positive and statistically significant impact on the relationship between

efficiency and financial performance of microfinance institutions, acting as a moderator. As a firm enters maturity stage, its established customers ensure a steady flow of business couple with referrals in the cash cow stage. Return on assets therefore is in most cases positive.

In a study conducted by Kaguri (2013), the researcher examined how the age of a company influences the relationship between its characteristics and financial success. The study focused on 17 life insurance companies in Kenya and analyzed data from 2008 to 2012. The regression study revealed that company age had a positive and statistically significant moderating effect on the connection between firm characteristics and financial performance of life insurance businesses in Kenya.

2.3.7 Insurance regulatory framework and financial performance

Governments throughout the world have always felt the need to give broad guidelines for the development of the insurance industry. Insurance involves taking money from the members of public, who thereby become policyholders, in return for promise of payment on the occurrence of some future event or, in the case of life assurance, at some future date. If there is no mechanism in place to check this kind of system, then some unprincipled persons might be tempted to collect premiums and divert them without bothering to honour their promises. This would make the public lose faith in the insurance industry (Klein, 1995).

To address this situation the Kenya government enacted the Insurance Act CAP 487 in 1948 which came into force 1987. The Act established the office of Commissioner of Insurance as the supervisory/regulatory authority of all the members of the insurance industry. The Insurance Regulatory Authority is a government entity mandated under the Insurance Act (Amendment) 2006, CAP 487 of the Laws of Kenya. Its purpose is to oversee, monitor, and foster the growth of the insurance market. The

board of directors are responsible for supervisory insurance companies in Kenya. It is the role of IRA to control product pricing and manage the costs of administration. In Kenya, IRA monitors insurance companies to ensure that they are solvent enough to pay off claims. Claims paid lead to customers gaining trust of the insurance industry and therefore more confidence in spending on insurance products (Jus, 2013).

Niehaus and Harrington (2005) suggested that most insurers are likely to support some degree of regulation to prevent harm to the reputation of the entire industry. Insurance companies in Kenya have a poor reputation, eight insurance firms have collapsed or have been placed under statutory management; representing an average of one insurance company after every four years (Olweny & Wanyama, 2013). This is in contrast to the Reinsurance firms that are historically subject to minimal regulatory oversight because both buyers and sellers are usually well informed (Skipper & Klein, 1999).

The regulator is responsible of all the industry players' performance. The actions determine the customer's perception of insurance. Insurance Regulatory Authority (IRA) is therefore in a good position to control and impose rules and guidelines that improve perception of insurance towards an increased uptake of insurance. Therefore, insurance regulatory framework, to some extent, has mediated on financial performance of insurance firms listed at NSE.

2.3.7 Summary of Empirical Literature Review

Table 2.1 Summary of Literature Review

Author	Title	Objective	Methodology	Findings	Conclusion and Recommendation
Kigen 2014	Title Effect of firm size on profitability of insurance companies in Kenya	To establish the effect of size on the profitability of Insurance Companies in Kenya.	The study employed descriptive and saturated research design on all licensed Insurance firms in Kenya. In addition, the study extracted information from audited of all Financial statements of all firms for the period 2009 to 2013.	It was revealed that firm size was measured by market shares and significantly affected the profitability. The correlation coefficients were 0.027, 0.011, 0.019, 0.016, and 0.022 of profitability for the years 2009, 2010, 2011, 2012 and 2013 respectively.	There was a strong positive relationship between profitability and firm size. The study revealed that there was a significant variation in profitability both general and long-term insurance companies. It was recommended that insurance companies should increase their profitability by creating market for their products.

Malik (2013)	Determinants of profitability of insurance firms in Pakistan	To examine the determinants of Profitability, proxied by ROA	The study used secondary data for a period of five years, between 2005 and 2009,	Findings show that there was no relationship between profitability and firm age of the company.	The results revealed that volume of capital was significantly and positively related to profitability. Moreover, leverage ratio showed negative and significant relationship with profitability
Velnam py & Niresh (2014)	The effects of firm size on profitability in listed manufacturing companies in Sri Lanka	To investigate the Impact of Firm size Profitability (Special reference to manufacturing companies in Sri Lanka	Correlation and regression methods have been used in the empirical analysis. There is no indicative relationship between firm size and profitability of listed manufacturing firms, the findings reveal. The population of the study comprises the manufacturing companies	The finding revealed that there was no positive relationship between firm size and profitability of listed manufacturing firms. In addition, the result showed that firm size had no significant impact on profitability of the listed manufacturing firms in Sri Lanka. on the insurers' financial	The results showed that firm size has profound impact on profitability. The listed manufacturing firms in Sri Lanka. In addition, result of analysis indicated that there was positive relationship between firm size and profitability

			<p>that are listed in the Colombo Stock Exchange, Sri Lanka. The period of the study covered the years between 2014 and 2017 for the manufacturing firms listed in the Stock Exchange.</p>	<p>performance. As for the company size, there is a positive linkage between this variable and the insurers' financial performance, since larger firms have more resources, a better risk diversification, complex information systems and a better expenses management.</p>	
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Dogan (2013)	The effect of Firm Size on profitability: an evidence study from Turkey of the firms listed in ISE.	To investigate the effect of firm size on profitability of firms listed in Istanbul Stock Exchange (ISE)	Multiple regression and correlation methods have been used in empirical analyses. Durbin-Watson d statistic has been used to test if there is an autocorrelation of first degree between the error terms of the sample.	Results indicated that there was a positive relationship between firm size and profitability. Control variable of firm age There was a strong and positive relation between firm size and profitability. As the firm expands, profitability of the firms listed in ISE goes together with an increase in their profitability. The increase in liquidity ratio of the firms cause a decrease in liquidity risk and this situation causes an increase in asset profitability.	The increase in liquidity ratio of the firms cause a decrease in liquidity risk and this situation causes an increase in asset profitability. There is a negative relation between leverage ratio as well as age and ROA in all three models. The increase in leverage ratio and age of the firms cause a decrease in their profitability. The increase in leverage ratio of the firms listed in ISE creates an increase in resource cost, so firm profitability decreases	The population and location of the study differ therefore there was contextual gap.
Otwani (2017).	Influence of capital adequacy on financial performance of Insurance companies listed at the NSE	To establish the impact of capital adequacy on financial performance of the companies listed on the NSE	Mixed research designs both qualitative and quantitative was used.	The individual constructs of capital adequacy were tested and there was evidence that most of the firm's investment made over the last ten years were affected by capital adequacy	Capital adequacy had a significant influence on financial performance. The study recommended that it was necessary to ensure that firms had sufficient capital.	There was /knowledge gap since the previous study had only one variable while the current study had five variables.
Cummins, (2016)	Capital adequacy and insurance risk-based capital systems.	two main objectives: 1) to provide an empirical analysis of insolvency experience, capitalization, and causes of insolvencies in the U.S. insurance	To do this, we use a dataset of about 350 Dutch insurers from all major lines of business during the pre-Solvency II period 1995–2005	One implication from our results is that, because insurers already follow a risk-based approach, the transition to the new European regulatory framework, Solvency II, is likely to be smooth	We investigate the capital structure of insurance companies empirically, using a data set of about 350 Dutch insurers during the period 1995–2005. We estimate models (1) explaining actual and required	The previous study was carried out in USA and the current study was done in Kenya, therefore there

		industry; and 2) to provide a comparative analysis and evaluation of the U.S. risk-based capital (RBC) system, the EU's Solvency system, and the Swiss Solvency Test (SST)..			solvency margins, and (2) describing insurers' solvency adjustment behaviour.	
Gonga (2017),	Determinants of financial performance of selected insurance firms in Nairobi County	To investigate the effect of firms specific factors and financial performance of insurance firms in Nigeria from 2009 – 2017.	This study used descriptive research design. The sample size was determined by using the simplified Taro Yamane (1967) which is recommended for a population of below 10,000;	The data was analyzed qualitatively and quantitatively using percentages, means and frequency distribution with the aid of Statistical Package for Social Sciences (SPSS) version 17. Since data was descriptive, such as means, frequencies and percentages were used to describe the findings of the study	The study concluded that the size of the firm was a significant factor affecting the profitability of insurance firms in the Kenyan insurance markets. Large firms had more resources, more accounting staff and sophisticated information systems that result in more profitability.	The previous study was qualitative while the current study

Yusuf & Dansu, (2018),	the effect of claim costs on insurers' profitability in Nigeria	To examine the relationship between claims cost insurance industry	The study also developed two linear regression models that could be used to forecast future events in the industry. Data were generated from the financial statements of ten (10) insurance companies covering a period of ten years (2002 – 2011).	The results revealed that PBT (profitability) correlates directly with NC (Net Claims) and ER (Expense Ratio) but inversely with LR (Loss Ratio). It also showed that for every one percent increase in NC, there would be a corresponding increase of 36.7% in LR.	The policy implications of this study for the stakeholders of the insurance industry were numerous. Nigerian insurers should pay attention to their underwriting activities to ensure objective risk selection and management. In addition, insurers need to invest more on human capital development and staff motivation as these enhance productivity and subsequently profitability	The previous studies in Nigeria and the world done in Kenya
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Afolabi (2018)	The effect of claims payments on profitability of insurance companies in Nigeria	To examine the effect of claims payments on the profitability companies in Nigeria.	Descriptive statistics and the multiple regression techniques was adopted. The data was analyzed with the aid of the Statistical Package for Social Sciences (SPSS version 23).	The result revealed that profitability had an inverse relationship with LR (loss ratio) and NC (net claims), but a direct relationship with ER (expense ratio).	The study concluded that net claims had a positive statistically significant on loss ratio. It recommended that the Nigerian insurance industry must manage their claims processes efficiently and effectively , in order to reduce the number of claims for every earned premium.	The previous Nigeria while done in Kenya detected.
Yusuf (2015)	The effectiveness, efficiency and promptness of claims handling process within the Nigerian insurance industry	To process and examine	Cross-sectional survey design and judgmental sampling technique were employed	Finding revealed that managing claims efficiently had positive statistically significant effect on operational process in	It was concluded that insurance claims complaint files could be properly kept, monitored and handled for the needs of any warrant to	The previous sectional resea while the cu

				claims management and promptness of claims handling processes.	its usefulness in the future. Study recommended that claims manager should put in place strategic plans .	
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Abor (2005)	Capital structure and profitability of listed firms on Ghana Stock Exchange (GSE)	To investigate the effect of capital structure and financial performance of insurance companies listed on Ghana Stock Exchange (GSE).	Regression analysis was used to estimate the return on equity in relation with the measures of capital structure.	The results revealed a significantly positive relation between the ratio of short-term debt to total assets and ROE. A negative relationship between the ratio of long-term debt to total assets and ROE existed. The relationship between total debt	The conclusion was that huge returns and profitable firms always used more short-term debt, short term is important part of total debt, and usually firms use 85% of short-term loan against long-term debt. Long-term debt and return on equity had negative relationship and the relationship between total debt and return on equity were positive. The recommendation	The that stud don Ghana onl insu firm on exc diff this bec the inte and moe vari wen con in whi stud incl thes
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				and return rates, the results showed a significant positive association between the ratio of total debt to total assets and return on equity	was that an appropriate mix of capital structure should be adopted in order to increase the profitability of insurance firms. The insurance firms should try to use internal sources of financing in order to increase their profitability and to avoid financial risks.	vari insu firm stud diff env Her Cor gap
Taani, (2013),	The relationship between Capital Structure and Firm financial Performance in Jordan	structure and firm financial performance across Jordanian manufacturing firms in Jordan.	The annual financial statements of 45 manufacturing companies listed on the Amman Stock Exchange were used for this study which covered a period of five (5) years from	The results showed that there was a negative and insignificant relationship between Short-term debt and Total assets and also between Long-term	firm financial performance. It recommended that managers of manufacturing companies should exercise caution while choosing the amount of debt to finance their operations.	indu the stud carr insu indu Cor gap

					2005-2009	debt and Total assets, as well as ROA and Net Profit Margin; while Total debt to Equity was positively related to ROA and negatively related to Net Profit Margin.	
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Ndirangu, (2008)	Capital Structure and Financial Performance of Insurance Companies in Kenya	To establish the relationship between macroeconomic factors and Capital Structure of non-financial firms listed at the Nairobi Securities Exchange.	Correlation research design was adopted. The population of 43 non-financial firms listed at the NSE studied.	Findings revealed that debt equity ratio was critical in examining the creditworthiness of a company. An increase in the debt equity ratio indicates that a company is financed by creditors. The prevailing economic condition acts as an external determinant to the decision on capital structure i.e. whether to acquire leverage or to result to equity for financing	Inflation rate influences the debt equity ratio positively. Inflation rate changes have a significant effect in the purchasing power of money and the cost of production. Inflation therefore affects aggregate demand, cost of production and increases the cost of borrowing decreasing the value of debt the reason for the positive influence on the debt equity ratio. The interest rate in the market links directly to a response to the market and demand of leverage required. The lending interest rate is hence influenced by the economic factors prevailing in the economy.	The study used one independent variable and one dependent variable while this study had four independent variables, two dependent variables one moderating variable and one mediating variable hence knowledge/contextual gap detected
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Rafiq et al (2016)	Effect of moderating effects of firm age on research and development expenditure and financial performance.	To examine the impact of Research and Development on the financial performance of US and Chinese petroleum and gas extraction and coal mining firms.	Regression analysis was adopted, To do so, CEM to a panel of firms over the period 2009–2013.	The results of the conducted dynamic panel analysis reveal that age of firms is an important explanatory factor in the determination of business success. Precisely, on a sample of the Croatian food processing industry, firm age turns out to be statistically significant with negative coefficient sign, thus suggesting deterioration of firm performance with age. As firms grow older, they become very bureaucratic, with reduced organizational flexibility and ability for prompt changes	Our results are consistent with the liability of newness, meaning that firm investment in R&D takes time to have a real impact on bottom line measures of financial performance. We conclude with a discussion of the practical implications of our results for Chinese and US mining firms.	Contextual gap, the previous study was done in China while the current study was done in Kenya
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Pervan and Ćurak (2017)	To determine the moderating influence of age on firm performance with evidence from the Croatian Food Industry.	Dynamic panel Regression analysis based on a sample of 956 firms operating in Croatian food industry during the 2005-2014 period was used.	Secondary data was collected from AMADEUS database for the period 2005 to 2014 and analyzed through dynamic panel regression	Results indicated that age of firms turns out to be statistically significant with negative coefficient suggesting deterioration of firm performance with age.	.The total number of firms included in the analysis amounted to 956. Given that the total number of analysed firms was changing over the years (as a result of entering of new firms, the mergers, acquisitions and liquidations), an unbalanced panel is formed.	The previous study was done in Croatia while the current study was done in Kenya hence contextual gap.
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Kaguri (2013)	Moderating effect of firm age on the relationship between firm characteristics and financial performance of life insurance companies in Kenya.	To investigate company age as a moderating variable on the association between company microeconomic factors and financial performance of life insurance companies in Kenya.	The study adopted regression analysis to analyze data collected by using Statistical Package for Social Scientists (SPSS).	Findings indicated that the effect of variables are statistically significance to influencing financial performance of life insurance companies as indicated by the positive and strong Pearson correlation coefficients.	Based on the findings, the study recommends that insurers must work towards improving the premiums earned to increase profits.	The study analyzed life insurance companies while the current study analyzed listed insurance firms in Kenya thus presenting a knowledge gap.
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2.4. Conceptual Literature Review

2.4.1 Firm Size

The size of an employer refers to the extent and diversity of its production capacity and capabilities, or the range and diversity of services it can simultaneously offer to its consumers (Jonsson, 2007). The objective of expanding the size of the company is to benefit from the advantages of economies of scale. Economies of scale occur when a specific increase in inputs leads to a greater rise in output than the proportionate increase in inputs. According to Reinhard's (1983) oligopoly model, there is a positive relationship between a firm's size and its ability to develop technologically complex items. This, in turn, results in concentration. These marketplaces have limited competition, making them more lucrative. Consequently, larger corporations possess the ability to reach the most lucrative market groups.

Firm size is a strategic component of comparative advantage and analysis (Chen and Hambrick 2005; Mintzberg 2009). Similarly, Dean et al. (2008), posits that firm size relates to market share, profitability. Large firms enjoy economies of scale, scope and have control over their supply chains (Daft, 2005). Research has shown that there is a direct relationship between the size of a firm and its profitability. Specifically, larger companies tend to be more profitable. Additionally, the profit rate of the market is positively associated with the concentration ratio and negatively associated with the marginal concentration ratio (Collins & Preston, 1969). Collins & Preston (1969) demonstrate that the correlation between the size of a firm and its profitability is a result of applying more distinct and specialized strategies, which in turn should result in increased efficiency.

The size of a firm is a variable factor that belongs to the category of organizational characteristics. Woodward (1965) asserts that the most reliable measure of "bigness" is the magnitude of the managerial

team. Firm size is typically assessed using various metrics, including gross value of assets, number of employees, sales turnover, natural logarithm of total number of employees, natural logarithm of total assets, and natural logarithm of total sales. Large corporations can obtain cost advantages by leveraging their extensive knowledge and accumulated expertise, allowing them to produce items more efficiently. Additionally, they can distribute their fixed expenses over a larger volume of production (Abreu & Mendes, 2001).

2.4.2 Capital Adequacy

An examination of the existing literature indicates that a company's financial success is greatly impacted by its capital adequacy. Therefore, it can be inferred that the financial performance of an organization is significantly influenced by its capital sufficiency. This position has received backing from other researchers, including Almazari and Alamri (2017), who conducted a study on this topic in Saudi Arabia. The findings of their investigation demonstrated a clear and direct association between a firm's success and its capital adequacy. This indicates that an increase in capital sufficiency leads to improved financial performance of the firm. In 2018, Udom and Eze conducted a study to investigate the relationship between capital sufficiency and the financial performance of enterprises. The study results suggest that capital adequacy had a crucial role in improving financial performance. Capital adequacy, as defined by Archer et al. (2010), pertains to the presence of sufficient capital to protect the integrity of customer deposits held by an organization. According to Olalekan and Adeyinka (2013), capital adequacy is the amount of money that an institution needs to have in order to ensure the efficient and successful functioning of its commercial activities for a specific duration. He additionally claims that having sufficient cash is essential in order to avoid a company from failing by absorbing any potential

losses. Capital adequacy, as defined by Almazari and Alamri (2017), refers to a firm's capacity and proficiency in effectively managing the risks it encounters. Additionally, it pertains to the firm's ability to make decisions based on the corporate strategy. They also argue that capital adequacy is a crucial aspect in determining the prices of different items and maximizing returns from a company's activities. According to Almazari and Alamri (2017), the Capital Adequacy Ratio (CAR) is the most appropriate measure for assessing the adequacy of an organization's capital. Additionally, they suggest that CAR is a crucial measure of a company's liquidity. The variation of this ratio can be influenced by the restrictions established by regulatory agencies, which may change among industries. The key indicators of capital sufficiency in a company may encompass asset quality, capital structure, firm liquidity, and asset base (Olalekan & Adeyinka, 2013). The CAR is a valuable indicator of a company's management proficiency in effectively utilizing financial resources to maximize shareholder profits. Studies have shown that there is a negative correlation between high levels of capital adequacy and profitability (Almazari & Alamri, 2017).

A firm with a strong capital base is able to withstand liquidity shocks without incurring additional charges at the expense of lost clients. Consequently, this resilience allows insurance firms to underwrite various risks while remaining afloat (Nazir, 2010). It is therefore timely to examine capital adequacy levels of insurance companies in Kenya.

2.4.3 Claim Costs

An insurance claim refers to a formal request made by an individual or entity to an insurer, seeking compensation for a loss that falls within the coverage of an insurance policy (Brooks, et al., 2005). This is the tangible implementation of the advantages offered by an insurance provider. A claim establishes

the contractual connection between an insurance company and its policyholder. It provides an opportunity to demonstrate that the money spent on premiums over the years was justified in order to receive reimbursement (Butler & Francis, 2010). The loss ratio is the result of claims exceeding collected premiums. The profitability of an insurance company is inversely proportional to its ratio (Bates & Atkins, 2007).

Similarly, Bates and Atkins (2007) argue that a claim allows an insurer to create a positive impact on the policyholder. Nevertheless, the act of satisfying the policyholder with claim reimbursement can be quite costly since claims represent the most significant expense for an insurance company (Boor, 1998; Harrington & Niehaus, 2006; Bates & Atkins, 2007; SAS, 2012). However, insurers must prioritize their claim handling function as it directly impacts customer retention. Effective claim handling leads to increased customer loyalty, while poor handling can erode policyholders' trust and harm the insurer's reputation (Banjo, 1995; Butler & Francis, 2010). Insurance claims can vary in complexity and duration. They can range from straightforward claims for household building and possessions, which are often resolved within a few days of being reported, to more intricate bodily injury claims that can remain unresolved for several years (Michael, 2008). Once a claim has been validated as valid, the insurer meets their commitment by reimbursing the insured to their initial state, regardless of the claim's type.

A definitive differentiation exists between simple claim processing and effective claim management. Qaiser (2013) opined that claim management is wider in scope. According to the author, claim management involves not only claim processing but also include strategic role, cost monitoring role, service aspect as well as the role of people handling the claim. In addition, the Productivity Commission (2002) defined effective claims management as a proactive approach that involves promptly acknowledging and paying valid claims, accurately evaluating the financial reserve for each claim,

providing regular reports, minimizing avoidable expenses, preventing prolonged legal disputes, treating claimants with courtesy, and expediting the claims process whenever feasible.

Insurers have now acknowledged the necessity of transitioning from claims processing to effective claims management (Amoroso, 2012). Given its crucial role in maximizing profitability and ensuring the company's long-term viability by fostering customer satisfaction, policy renewal, and customer retention. As per the Statistical Analysis System (SAS) (2012), an insurance company that handles claims will also strive to reduce instances of false claims. SAS (2012) reports that 10% of insurance claims are false. Furthermore, it is essential to diligently monitor claim situations to effectively identify potential chances for recovery through salvage, subrogation, or involvement of third parties. Insurers should cultivate proficiency and knowledge in loss reserving and claims forecasting, as this diminishes the necessity for contingent augmentations of loss reserve. Furthermore, the claims manager must strike a harmonious equilibrium between minimizing claims processing time and decreasing loss adjustment costs. Ultimately, it is necessary to exert endeavors in order to reduce the costs associated with legal proceedings. Nevertheless, assertions that include legal professionals frequently result in a twofold increase in the settlement sum and a substantial rise in the insurer's costs (SAS, 2012). The largest expenditure area for an insurer is the cost of claim payouts and expenditures, which can amount to as much as 80 percent of the premium income. However, insurers that can reduce their claims costs by just one percentage will likely achieve substantial savings (Harrington & Niehaus, 2006; Amoroso, 2012).

Empirical studies have reported that large percentages of claims are fraudulent. For example, studies of automobile personal injury claims in the state of Massachusetts have found that anywhere from one-quarter to three-quarters of claims show some evidence of fraud (Tennyson & Salsas-Forn,2002).

Claims cost is usually calculated as the total losses incurred by an insurer plus adjustment expenses. However, loss ratio is used to calculate how much an insurer pay as claims in relation to the premium earned. The lower the loss ratio the better the profitability because higher loss ratios may indicate poor risk selection. Claim costs can be measured by the following formula: -

Loss Ratio (LR) = Total Net Claims/Earned Premium, Net Claims (NC) = Total claims paid in the year, Expense Ratio (ER) = Total Underwriting expenses/Earned Premium (Tennyson & Salsas-Forn, 2002).

2.4.4 Capital Structure

The capital structure pertains to the manner in which a company obtains funding for its assets, encompassing both internal and external sources. Debt financing refers to the acquisition of both short-term and long-term obligations. Equity finance, the second source, encompasses retained earnings and capital contributed by the owners. To optimize their financial structure, the company must carefully select the appropriate combination of stocks, debts, and securities. The ideal capital structure, referred to as a mix of capital, is to enhance a company's interest by reducing the cost of capital and increasing its overall value (Abrar & Javaid, 2016). Capital structure decisions denote a company's optimal use of different financing options for its asset comprising debt, equity, retained earnings and hybrid capital (Besley and Brigham 2008; Van Horne and Wachowicz 2008).

Besley and Brigham (2008) argued that optimal capital structure selection is a critical financial choice made by management, involving a careful evaluation of the benefits and drawbacks of debt and equity. Determining the appropriate balance between stocks and debt is often challenging for commercial organizations. This decision is of utmost importance in order to optimize results for all stakeholders. The

decision's impact on the company's financial capacity to navigate its competitive landscape is crucial. Consequently, it is vital to ascertain the suitable capital needs and fundraising sources. The selection of capital structure is undoubtedly a crucial decision for any organization. Companies require financial resources to sustain their business operations and optimize profits for different entities. Although this statement holds true for insurance firms as well, their primary emphasis is rather distinct.

The primary purpose of the insurance industry is to safeguard policyholders by reducing the impact of losses during unforeseen events. It accomplishes this by collecting premiums from policyholders and settling claims. Insurance companies have consistently been concerned with the firm's financial capacity to meet its obligations to policyholders as a consequence of this duty. In order to mitigate risks, insurance companies must possess efficient methods for assessing the requisite capital needed to absorb unforeseen losses resulting from insurance claims and other operational risk exposures (Takele & Beshir, 2017; Ai & Chi, 2019).

In general, there are three ratios that assess the strength of a company's capitalization structure. The first two are popular metrics: the debt ratio (total debt to total assets) and the debt-to-equity (D/E) ratio (total debt to total shareholders' equity).

2.4.5 Firm Age

The firm's constituents are like its building blocks and the basic elements that determine survival, failure, rise or decline (Barney, 2001). Firms accumulate and develop resources and capability at varying pace or speed. The age of a firm moderates the quality and quantity of resources embedded in it. In an organic sense, firms may grow old over time.

Firms' performance is therefore comparable to outcome of activities in living species. Is it the case that as a firm grows older, its capacity to achieve its purpose and objectives sags? At early periods, biological species are dependent; mid-age coincides with prime capability and at old age, frailty sets in culminating in expiration. Does the growth path of living organisms correspond with that of the business firms' performance?

Firms may experience their best performance at old age and during their early periods they may also have better capability than later on. Firms are capable of being reinvented or reincarnated. With restructuring and redesign interventions, businesses growth trajectories are refocused. Do Kenyan insurance firms' ages moderate their financial performance?

Moderating influence of firm age directly correlates with financial performance as established firms enjoy economies of scale in their operations. This translates to more sustainable profits and high good will (Rafiq, Salim & Smyth, 2016). Firm age depicts lifespan since inception. The higher the lifespan the higher the profitability (Evans, 1987; Yasuda, 2005).

According to Liargovas and Skandalis (2008), older companies could be insensitive to emerging technologies and are rigid with routine issues. They may not adapt to changes in their external environment leading to decreased revenue streams. On the contrary, younger firms are still scanning their external environments and easily adapt new technologies for improved performance. Consequently, an inverse relation between performance and age is highly likely.

2.4.6 Financial Performance

This important metric of an organization's stability depicts the degree to which financial objectives have been achieved (Bhunja, Mukhuti & Roy 2011). Financial performance of business Organization is measured with the use of financial ratios. Abate (2012) suggests use of financial ratios for comparative purposes between revenues and expenditures for sustainability purposes. The most common metrics for ascertaining financial performance are; Return on Asset, Return on Investment and Return on Equity (Carton, 2004; Al-Shami, 2008; Malik, 2011; De Villiers, 2012; Delen, Kuzey & Uyar, 2013; Turley & Robbins 2015).

Erasmus (2008) posited that company stakeholders use a variety of performance metrics such as profitability, market share, employee retention and liquidity to gauge past and current financial position of the company. It is financial performance that guarantees the organization's going concern. Prudent management of an organization's resources ensures the financial stability both at the micro level as well as the macro level (Naser & Mokhtar, 2004). Financial performance reveals the allocation of a company's resources among core mandate while outsourcing peripheral duties within confines of an industrial average.

Profitability, which is a key indicator of financial performance, may be effectively quantified using return on assets, return on equity, and loss ratio (Wei, 2012). According to Jim (2007), the performance of financial institutions can be assessed based on many categories such as profit growth, employee growth, asset growth, or any other factor that savers or management consider crucial for the potential success of the business. Chen and Wong (2004) argue that financial performance is determined by an organization's

capacity to acquire and effectively utilize resources in various ways to establish a competitive edge. There are two distinct categories of performance: financial performance and non-financial performance.

Financial performance provides comprehensive data on aspects directly associated with the financial report. The evaluation of a company's performance is conducted across three dimensions. The first dimension pertains to the company's level of productivity and efficiency in transforming inputs into outputs. The second dimension refers to the company's profitability, which is determined by the extent to which its earnings exceed its costs. The third dimension refers to the market premium, which is the extent to which a company's market value exceeds its book value (Walker, 2001). Financial success is primarily evaluated using conventional accounting key performance measures, such as Return on Assets, Operating Profit margin, Earnings before Interest and Tax, Economic Value Added, and Sales growth (Crabtree & De Busk, 2008).

2.4.7. Return on Assets

Return on Asset (RoA) reveals how much profit a company earns for its assets (Delen et al, Kuzey & Uyar, 2013). It indicates how profitable a company is relatively to its assets. It gives an idea as to how efficient management is in using its assets to generate earnings. Assets include cash in bank, account receivable, property, equipment, inventory and furniture. The higher the firms return on total assets, the better the firm is. Return on assets (RoA) indicates the profitability of a company as it relates to the total assets of the company. It gives a clue as it relates to whether management of the company has been efficient in using assets of the company in generating earnings. Return on assets (RoA) is the most appropriate measure of the performance of a company and when there is an increase in RoA ratio it portrays positive financial performance of relative business and vice versa (Epps & Cereola, 2008).

Return on Assets (RoA) is an indicator that measures a company's profitability in relation to its total assets. It demonstrates the effectiveness with which management utilizes its assets to make profits. The company's assets consist of both debt and equity, which are utilized as means to finance the firm's operations. Investors utilize the Return on Assets (RoA) metric to gauge the company's efficiency in transforming its invested capital into net income. A higher Return on Assets (RoA) is desirable since it indicates that the company is generating greater profits with a smaller amount of investment. The return on assets is a profitability ratio that quantifies the amount of profit a firm may create from its assets. The formula for Return on Assets (RoA) = EBIT / Average Total Assets.

2.4.8 Return on Equity

Return on equity (RoE) is a metric that evaluates the entire performance of a company. The metric compares the net profit after taxes, excluding any preferred stock dividend, to the equity that shareholders have put in the firm (Mankai & Belgacem, 2013). A high return on equity typically indicates that the company is willing to pursue lucrative investment prospects and generate substantial returns for its common shareholders. Thus, it demonstrates the proficiency of a corporation in utilizing investment dollars to achieve an increase in earnings.

Return on equity (RoE) is a financial performance metric obtained by dividing net income by shareholders' equity. RoE, or return on equity, is calculated by subtracting a company's debt from its assets. This metric represents the return on net assets for owners. Return on Equity (RoE) is a financial metric that evaluates a company's profitability in accordance to the amount of money invested by its

shareholders. RoE is skewed towards shareholder wealth maximization through earnings per share which instills good corporate governance under agency problem (Davison, 2010; World Bank, 2014).

2.4.9 Insurance Regulatory Framework

The Insurance Regulatory Authority is a statutory government agency established under the Insurance Act (Amendment) 2006, CAP 487 of the Laws of Kenya to regulate, supervise and develop the insurance industry (Insurance Regulatory Authority). It falls under the board of directors and manages by the Commissioner of Insurance who is also the CEO. It is IRA's role to control product pricing and manage the costs of administration.

Insurance companies are heavily regulated – to protect policyholders from the threat of an insurer's insolvency. If the company goes bankrupt, policyholders may lose much of their investment in promised insurance benefits (Valuing insurance companies, 2000). The objective of economic regulation should be to mitigate the impact of significant market imperfections (or market “failures”) compared to the ideal of a perfectly competitive market. Economic regulation refers to rules that limit who can enter a business (entry controls) and what prices they may charge (price controls) (Niehaus & Harrington, 2005). This is such that the characteristics of the market are to differ significantly from those of a perfectly competitive market, then there would be need for regulation.

In Kenya, Insurance Regulatory Authority monitors insurance companies to ensure that they are solvent enough to pay off claims. Claims paid lead to customers gaining trust of the insurance industry and therefore more confidence in spending on insurance products (Jus, 2013). Insurance penetration is

determined by the uptake of insurance products (Masese, 2013), which is concerned with the market share.

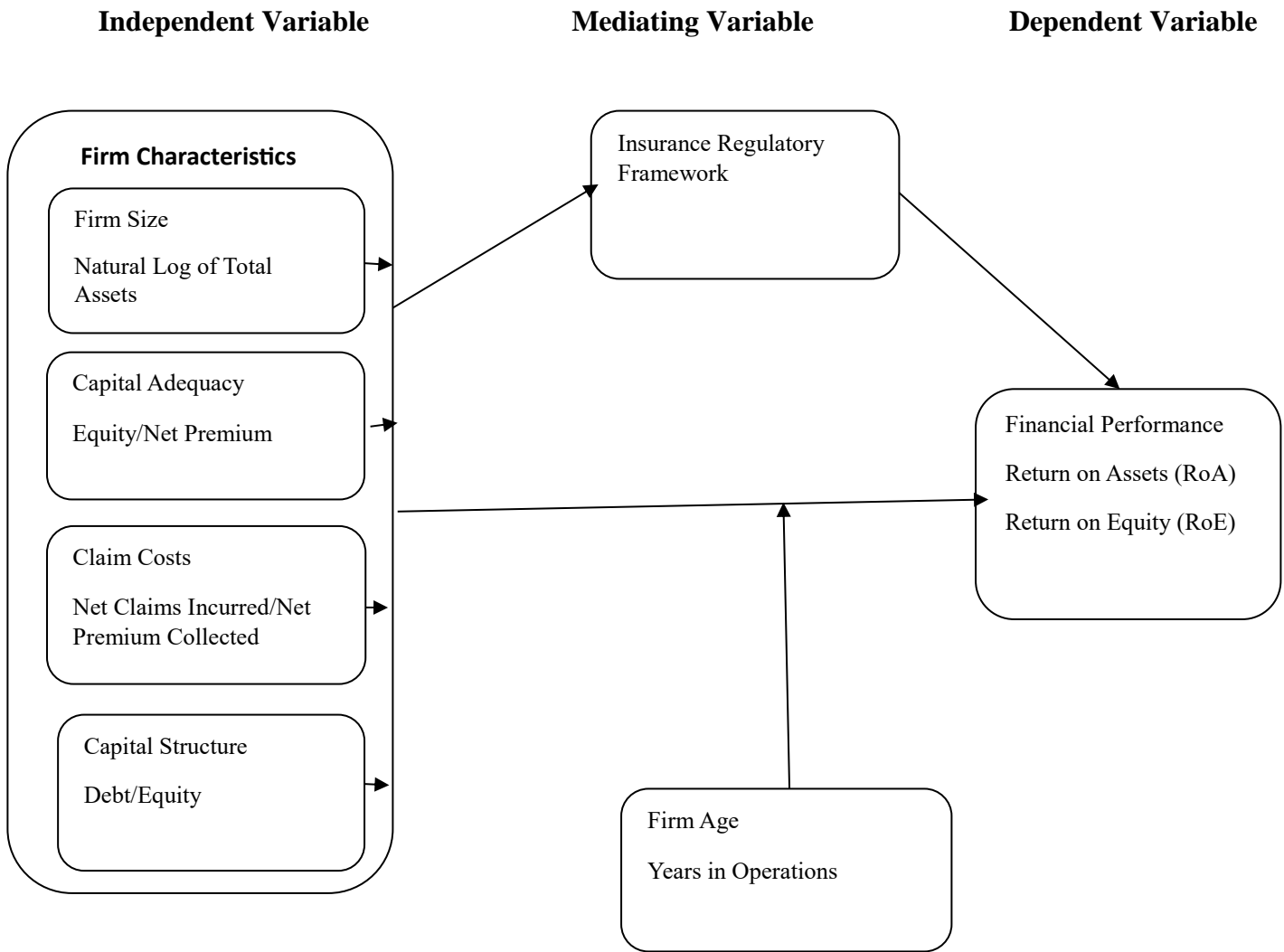
The insurance industry has members association known as the Association of Kenya Insurers (AKI). The functions of IRA as per the Act are supervision, development and regulation of the whole industry in Kenya. The industry total assets went up by 19.2% that is from 359 billion shillings in December 2016 to 425 billion Kenyan shillings December 2017. Assets for generating income also went up to Ksh 353.5 Billions, this is being 19.25% increase. As in most cases with African countries, the insurance market in Kenya is greatly made by the life segment. The segment of medical has been steadily penetrating over the past few years but majority of people have not given it a priority (IRA, 2016).

2.4.10 Conceptual Framework

The study had four variables; Independent variable comprising Firm characteristics (Firm size, Capital adequacy, Claim costs and, Capital structure), Moderating variable (Firm age), Mediating variable (Insurance Regulatory Authority) and Dependent variable (Financial performance). Business organizations exist for a variety of objectives the key one of which is profit maximization. Closely related to this objective is shareholder wealth maximization. Insurance firms are crucial in risk management for the overall health of an economy. Their going concern ensures the existence of other business entities in the wider economy.

The going concern aspect is depicted by financial performance as cash flows determine whether a business remains afloat or goes under. The dependent variable, Financial performance, was captured in

this study through two metrics; Return on Assets and Return on Equity. The level of financial performance of listed insurance firms in this study was determined by Independent variable, Firm characteristics measured by (Firm size, capital adequacy, claim costs, and capital structure). In as much as firm characteristics directly with financial performance, firm age moderated this relationship. Similarly, this only interaction among firm characteristics, firm age and financial performance was correlated possible through Intervention of Insurance regulatory Authority.



Moderating Variable

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter looks at the philosophy guiding the study, delves into research design, research area of interest, population of interest to sampling technique used, data collection instruments and procedure, and concludes with inferential analysis.

3.2 Research Philosophy

Knowledge generation is procedural depending on a paradigm connotation. A researcher participates in knowledge generation by being participatory and therefore subjective or remains objective by simply inputting data without emotional attachment to the subject of study. In the latter case, the philosophical orientation is positivistic while in the former it is phenomenological (Saunders et al., 2007). This study was positivistic in philosophical orientation, using quantitative secondary data from published financial statements. Listed firms are subject to regulatory requirements for adequate disclosure to protect potential investors from information asymmetry.

3.3 Location (Area) of the study

This study was based in Nairobi, Kenya. Nairobi is where stock market operates; and also, being the capital city of Kenya and where the NSE office is located. The study conducted at the NSE and IRA offices where all financial statements were obtained.

3.4 Research Design

This study used longitudinal research design to analyze quantitative data spanning 10 years for a trend analysis. This was positivistic as the researcher did not manipulate the data from its secondary nature. The data was strictly subjected to inferential analysis capable of producing similar results on repetition thus omitting researcher bias of any kind.

3.5 Target Population of the Study

The study looked at all 6 listed insurance firms at the NSE due to reliability of publicly available audited financial statements for the period 2009 to 2018 due to poor performance of the insurance subsector.

Table 3.1 Target Population

S/No.	Listed Insurance Firms
1	Kenya Reinsurance Corporation
2	British - American Insurance Company
3	CIC Assurance Group of Companies
4	Liberty Kenya Holdings Limited
5	Sanlam Kenya Plc.
6	Jubilee Holdings Limited

Source: (NSE 2018)

3.6 Sampling and sample techniques

The study adopted saturated sampling of all the six listed insurance firms at the NSE.

3.7 Data Collection Procedures and Research Instruments

The study used document analysis guide with panel data from published audited financial statements of the six listed insurance firms at the NSE for the period 2009 to 2018. There was no need for an interview schedule or questionnaire schedule as the study used secondary data.

3.8 Data Analysis

The study used inferential statistics assisted by Stata software for analyzing panel data from published audited financial statements for the period 2009 to 2018. Panel data was used because it allowed the

control for variables that cannot observe or measure some cultural factors or difference in business practices across companies; variables that change over time but not across entities. This accounts for individual heterogeneity (Bryman & Cramer, 2012). In this case, a balanced panel is a set of data that includes the time series which contain equal measurement (Bryman & Cramer, 2012). Multiple regression analysis allowed for investigation of each predictor variable on financial performance as well as the moderating influence of firm age of financial performance.

Multiple Regression equations adopted for the study were;

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_{it} \dots\dots\dots 3.1$$

Moderating influence of firm age was captured through equation 3.2

$$Y_{it} = \beta_0 + \beta_1 X_{1it} * M_{it} + \beta_2 X_{2it} * M_{it} + \beta_3 X_{3it} * M_{it} + \beta_4 X_{4it} * M_{it} + \epsilon_{it} \dots\dots\dots 3.2$$

Y_{it} = Financial performance of insurance firms listed in the NSE.

β_0 = Y intercept.

{ β_i ; $i=1,2,3,4$ } = The coefficients of variables representing the various independent variables.

{ X_i ; $i=1, 2, 3, 4$ } = Values of the various independent variables.

i = the listed insurance firms from 1 to 6, t = time period from

2009 to 2018 (10 years).

ϵ_{it} = error term.

X_{1it} = Firm Size

X_{2it} = Capital Adequacy

X_{3it} = Claim Costs

X_{4it} = Capital Structure

M_{it} = Firm age.

Objective 1: To determine the influence of firm size on financial performance of insurance firms listed in the NSE.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \epsilon_{it}$$

Objective 2: To investigate the influence of capital adequacy on financial performance of insurance firms listed in the NSE

$$Y_{it} = \beta_0 + \beta_2 X_{2it} + \epsilon_{it}$$

Objective 3: To determine the influence of claim costs on financial performance of insurance firms listed in the NSE.

$$Y_{it} = \beta_0 + \beta_3 X_{3it} + \epsilon_{it}$$

Objective 4: To assess the influence of capital structure on financial performance of insurance firms listed in the NSE.

$$Y_{it} = \beta_0 + \beta_4 X_{4it} + \epsilon_{it}$$

Objective 5: To determine the moderating effect of firm age on the relationship between firm characteristics and financial performance of listed firms in the NSE.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} * M_{it} + \beta_2 X_{2it} * M_{it} + \beta_3 X_{3it} * M_{it} + \beta_4 X_{4it} * M_{it} + \epsilon_{it}$$

3.8.1 Measurement of Study Variables (Variable Operationalization)

Explanation of firm characteristics and financial performance along with their proxies are specified in table 3.2

Table 3.2 Measurement of Variables

	Proxy	Formulae
Dependent Variable	Y	Return on Assets (RoA) = EBIT / Total Assets. Financial performance
		Return on Equity (RoE) = EBIT / Shareholder's Equity.
Independent variables		
Firm Size	X1	Log of Total Assets
Capital adequacy	X2	Share Capital/Net Premium earned
Claim costs	X3	Net Claims Incurred / Net Premium Collected
Capital structure	X4	Total debt/Equity
Moderating Variable		
Firm age	M	Number of years since incorporation.

3.9 Validity

Mugenda & Mugenda (2003) asserts that results should represent actuality. Three common types of validity i.e. content, construct, and criterion validities. Content validity was done to confirm the research instrument was adequately measured or represented the content of the property or trait that the researcher intends to measure. Subject matter expert review is often a good first step in instrument development to assess content validity, in relation to the area or field you are studying (Quinlan et al., 2011).

Construct validity indicates the extent to which a measurement method accurately represents a construct (e.g., a latent variable or phenomena that can't be measured directly, such as a person's attitude or

belief) and produces an observation, distinct from that which is produced by a measure of another construct (Quinlan et al., 2011)).

Criterion-related validity indicates the extent to which the instrument's scores correlate with an external criterion (i.e., usually another measurement from a different instrument) either at present (*concurrent validity*) or in the future (*predictive validity*). A common measurement of this type of validity is the correlation coefficient between two measures (Quinlan et al., 2011)).

If this purpose, for example, is to determine statistically the validity of a measuring instrument. Regression analysis (RA) is the best mechanism. Validity is the accuracy of a measure or the extent to which a question truthfully represents a concept it is meant to measure (Quinlan et al., 2011).

3.10 Ethical Consideration

A letter from postgraduate studies was issued to permit the researcher for clearance to collect data. Further, a research authorization permit from National Commission for Science, Technology and Innovation was obtained before the data collection exercise.

Research ethics entails the truthful reporting of data results, techniques, and procedures, as well as the publishing status, without engaging in fabrication, falsification, or distortion of data. Seeking to eliminate prejudice in the design of experiments, analysis of data, interpretation of data, peer review, personnel choices, and other areas of research that require impartiality. Safeguard sensitive communications, such as research papers or grant proposals intended for publication, as well as personnel records. Preventing the occurrence of bias towards colleagues or students based on their

gender, race, ethnicity, or any other variables unrelated to their scientific skills and ethical conduct. In this study the researcher will adhere to ethical issues.

3.11 Model Diagnostic Tests

Regression analysis is based on a number of assumptions which have to be checked for reliability purpose (Brooks, 2008). This study performed the following diagnostic tests to ensure reliability of its findings; normality test, autocorrelation, heteroscedasticity, Hausman test, multicollinearity and unit root test.

3.11.1 Normality Tests

The normality test of the data was confirmed by generating the Kurtosis and Skewness coefficients of the distribution. The normality distributed data, Kurtosis value should range from -4 to +4 and the skewness value should range from -3 to +3 (Mugenda & Mugenda, 2003).

3.11.2 Multicollinearity Test

Multicollinearity occurs where two or more predictor variables are closely associated. This interrelationship interferes with results. It was tested through variance inflation factor and tolerance limits. A VIF of less than 10 is acceptable together with tolerance limits less than 0.1. (Ayeko & Wamalwa, 2015; Gujarati, 2007).

3.11.3 Test of Autocorrelation

Autocorrelation measures the relationship between a variable's current value and its past values. An autocorrelation of +1 represents a perfect positive correlation, while an autocorrelation of negative 1 represents a perfect negative correlation.

The computation of a p-value is useful if the Durbin-Watson test statistic falls in the inconclusive range given in statistical tables. If the p-value is less than a selected level of significance (say 0.05) then there is evidence to reject the null hypothesis.

The p-value of the Durbin-Watson test is the probability of observing a test statistic as extreme as, or more extreme than, the observed value under the null hypothesis. A significantly small p-value casts doubt on the validity of the null hypothesis and indicates autocorrelation among residuals. The Durbin-Watson statistic will always have a value ranging between 0 and 4. A value of 2.0 indicates there is no autocorrelation detected in the sample. Values from 0 to less than 2 point to positive autocorrelation and values from 2 to 4 means negative autocorrelation.

3.11.4 Test of Heteroscedasticity

Heteroscedasticity means unequal scatter. In regression analysis, we talk about heteroscedasticity in the context of the residuals or error term. Specifically, heteroscedasticity is a systematic change in the spread of the residuals over the range of measured values. Heteroscedasticity is a problem because ordinary least squares (OLS) regression assumes that all residuals are drawn from a population that has a constant variance (homoscedasticity). To satisfy the regression assumptions and be able to trust the results, the residuals should have a constant variance

Classical Linear Regression Models assumes that error term has constant variance, the absence of which is denotes heteroscedastic data. Performing regression analysis without testing for heteroscedasticity leads to poor results. Testing for heteroscedasticity is achieved through performing the Breusch-Pagan/Godfrey test (1979). Rejection of null hypothesis confirms the presence of heteroscedasticity which calls for feasible generalized least squares model.

3.11.5 Unit Root Test

In statistics, a unit root test tests whether a time series variable is non-stationary and possesses a unit root. The null hypothesis is generally defined as the presence of a unit root and the alternative hypothesis is either stationarity, trend stationarity or explosive root depending on the test used.

Unit root tests was performed to ascertain stationarity of study variables through the Levin Lin Chu. This validates regression results across all the six listed insurance firms for the study period. The null hypothesis of this test was that all panels had unit root (Choi, 2001).

3.12 Tests of hypotheses

Table 1.3 Summary of Statistical test of hypotheses

Objective	Hypothesis	Method
<p>Objective 1</p> <p>To determine the influence of firm size on financial performance of insurance firms listed at the NSE</p>	<p>H01: Firm size has no significant influence on financial performance of insurance firms listed at NSE.</p>	Multiple Regression
<p>Objective 2</p> <p>To determine the influence of capital</p>	<p>H02: Capital adequacy has no significant influence on financial</p>	Multiple Regression

adequacy on financial performance of insurance firms listed at the NSE	performance of insurance firms listed at NSE.	
Objective 3 To determine the influence of claim costs on financial performance of insurance firms listed at the NSE.	H03: Claims cost has no significant influence on financial performance of insurance firms listed at NSE	Multiple Regression
Objective 4 To determine the influence of capital structure on financial performance of insurance firms listed at NSE	H04: Capital structure has no significant influence on financial performance of listed insurance firms listed at NSE	Multiple Regression
Objective 5 To determine the moderating effect of firm age on the relationship between firm characteristics and financial performance of insurance firms listed at the NSE	Ho5: Firm age does not moderate the relationship between firm characteristics and financial performance of insurance firms listed at the NSE	Multiple Regression

NB: All the hypotheses were tested at 95 per cent confidence level (level of significance)

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The chapter presents descriptive statistics, trend analysis, and diagnostic tests as well as results obtained.

4.2 Descriptive Statistics

Dependent variable (financial performance) was proxied by RoA and RoE. Independent variables were measured by Firm Size, Capital Adequacy, Claims Costs and Capital Structure while moderating variable was measured by firm age. The intervening variable was the Insurance Regulatory Authority that was discussed but not measurable.

4.2.1 Financial Performance of listed insurance firms

Table 4.1 below, shows that ROA had a mean of 0.0614464 which implied that the insurance firms listed in the NSE over the study period registered about 6.14% ROA. This means that for every shilling in assets owned by the insurance companies, they earned Ksh 6.14 in profits. This is a good performance indicator against the 5% industry rate. The standard deviation is 0.1544019 larger than the mean which suggests more deviation from the mean of ROA over the study period of ten years. This shows stability in the returns on assets while minimum and maximum values are -0.3491999 and 0.7854605 respectively.

This implies that there were some firms which made losses to approximately 35% while others made profit to the tune of 78.55% of ROA over ten year study period.

Further, the table 4.1 shows that the mean value of ROE was 0.1145244. This implies that shareholder received 11.45% return on investment in shares that is quite impressive as compared to industries average of 6.2%. The minimum and maximum were -1.270951 and 0.4445283 respectively for the period of 10 years (2009 to 2018), this means that some shareholders did not receive return invested in equity due losses made by the respective firms. The standard deviation was 0.2199498 indicating considerable deviation around the mean.

Therefore, the positive of ROA and ROE indicated that the insurance firms listed at the NSE recorded an increase in financial performance in the period of 2009 to 2018.

Further, table 4.1 displays the descriptive results of dependent variables. The study established that financial performance of listed insurance firms was measured by using two dependent variables; Return on Assets and Return on Equity.

Table 2.1 Descriptive Statistics for dependent variable.

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	60	.0614464	.1544019	-.3491999	.7854605
ROE	60	.1145244	.2199498	-1.270951	.4445283

Source: Research Data (2022)

4.2.2 The Independent Variables of Listed Insurance Firms

Table 4.2 below explains the descriptive results of independent variables. The mean log of total assets was 10.32485 while the minimum and maximum values were 8.158 and 12.279 respectively. The standard deviation value of 0.7213524 indicates that was a large variation from the average. This means that the listed insurance firms recorded increase in financial performance over the study period.

Capital adequacy had a minimum value of 0.039447 and a maximum value of 9.47927. This means that there was increase in premium earned by the equity holders for the period of study. The mean value of capital adequacy was 2.18578 and the standard deviation of capital adequacy was 2.468658 which implies that there was a small variation from the mean and it is a good indicator for prediction of earned premium.

Claim costs had a mean value of 0.5875862 with a minimum and maximum of 0.21 and 1.087 respectively. The standard deviation for claim costs was 0.2898892 which indicates that the claim costs of the firms deviated from the mean up to 28.98%. This implies that every shilling of net claim incurred there was 58.76% net premium earned.

Capital structure had a mean value of 3.145119 with a minimum of 0.564 and maximum of 6.671. The standard deviation of capital structure was 1.663448. This implies that there was too much risk of financing the operation with debt capital and as a result caused financial risk (a situation where the company could not service its obligation).

The study used four proxies i.e., LnA, CA, CC and CS in table 4.2 below.

Table 4.2 Descriptive Statistics for independent variables

Variable	Obs	Mean	Std. Dev.	Min	Max
LnA	60	10.32485	.7213524	8.15800	12.2790
CA	60	2.18578	2.468658	.039447	9.47927
CC	60	.5875862	.2898892	.02100	1.08700
CS	60	3.145119	1.663448	.56400	6.67100

Source: Research data (2022)

4.2.3 Moderating Variable for listed insurance firms

The descriptive statistics for moderating variable adopted in this study was the firm age and the result of the analysis is shown in table 4.3 below.

The mean age of the insurance firms listed in the NSE was 44.78333 (approximately 45 years). The maximum age of listed insurance firms was 72.0000 (approximately 72 years) while the minimum age of the insurance firms listed in the NSE was 13.0000 (13 years).

The standard deviation of age was 15.07393.

Table 4.3 Descriptive Statistics for moderating variable

Variable	O Mean	Std. Dev.	MM
	b		i a
	s		n x

Firm Age	6 44.78333	15.07393	1 7
	0		3 2

Source: Research data (2022)

4.3 Diagnostic Tests

Diagnostic tests were conducted before doing regression analysis based on the assumption of ordinary least squares method. There tests included normality, linearity, unit root test, multicollinearity test, heteroscedasticity test and autocorrelation test.

4.3: 1 Test for Normality

The data was subjected to normality tests by examining the skewness and kurtosis of the distribution. The results in table 4.4 above shows that the variables were normally distributed because the skewness values varying between -3 to + 3 (Mugenda & Mugenda, 2003). This falls within the acceptable range for the data normally distributed. In addition, the kurtosis values varied from -4 to +4 (Mugenda & Mugenda, 2003), which implies that the variables under study were normally distributed and not fit for further analysis.

Table 4.4 Normality Test

Variable	Obs	Skewness	Kurtosis
ROA	60	0.14310	0.23000
ROE	60	0.14310	0.23000
Firm Size	60	0.31000	0.24000
Capital Adequacy	60	0.30000	0.36000
Claim Costs	60	0.20000	0.56000
Capital Structure	60	0.49820	0.47000

Source: Research data (2022)

4.3.2 Linearity test (Panel line plot for RoA and RoE).

The researcher conducted a panel line plots to establish the movement of the variables overtime.



Figure 1 Panel line plot for RoA and RoE

Source: Research data (2022)

1 = Kenya RE, 2 = Jubilee, 3 = BRITAM, 4= Liberty, 5= CIC, 6 = Sanlam

The trend line shows that RoE was higher than that of RoA for firm 1, firm 2, firm 4 and firm 5 while firm 3 and firm 6 fluctuated during the period of study. In 2018 there was a sharp drop for RoE. The

decrease was attributed to the post-election violence of 2017 which spilled over to 2018. The line plot established that the response variables do not show wide variations in the long run and therefore, they depict mean variation. This is shown in the figure 4.1. Pervan and Višić (2012) posit that return on assets gives investors an idea of how effectively the company can convert the money invested into net income. The higher the RoE the better, because the company is earning more money on less investment. De Wet & Du Toit (2007) suggest that Return on equity (RoE) is the measure of a company's net income divided by its shareholders' equity. ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits.

4.3.3 Unit Root Tests (Stationarity Test)

The panel data was subjected to unit root tests in order to find out stationary conditions. The results in tables 4.5 and 4.6 below exhibit the unit root tests results for ROA and ROE based on the Levin-Lin-Chu unit-root test. The LLC was applied due to its applicability in a balanced panel. At the top of output table 4.5 summarizes the exact specification of the dataset. The Adjusted t^* statistic is -1.9310 with a p-0.0267 for ROA while the Adjusted t^* statistic is -6.6749 with a p-0.000 for ROE which are significantly less than the 5% significant level. Therefore, the null of both the panels contain unit roots is strongly rejected in favour of the alternative hypothesis that all variables are stationary.

According to Gujarati & Porter, (2003) a unit root test was conducted using the Levin-LinChu test to establish whether the variables were stationary or non-stationary. The reason of carrying out this test was to avoid spurious regression results being obtained by using nonstationary series. Results in Table 4.5 and 4.6 showed that all variables were stationary (i.e., absence of unit roots) at 5% level of significance. In conclusion, the study concludes that all the variables under consideration did not have unit roots

because the p-values were less than 0.05 and all were statistically significant. This means that the results obtained were not spurious.

Table 4.5 Levin-Lin-Chu unit-root tests

Levin-Lin-Chu unit-root test for RoA

Ho: Panels contain unit roots	Number of panels = 6
Ha: Panels are stationary	Number of periods = 10
AR parameter: Common	Asymptotics: $N/T \rightarrow 0$
Panel means: Included	
Time trend: Included	
ADF regressions: 1 lag	
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)	

	Statistic	p-value
Unadjusted t	-7.1540	
Adjusted t*	-1.9310	0.0267

Source: Researcher data 2022

Table 4.6 Levin-Lin-Chu unit-root test for RoE

Ho: Panels contain unit roots	Number of panels = 6
Ha: Panels are stationary	Number of periods = 10
AR parameter: Common	Asymptotics: $N/T \rightarrow 0$

Panel means: Included

Time trend: Included

ADF regressions: 1 lags average (chosen by AIC)

LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

	Statistic	p-value
Unadjusted t	-9.9329	
Adjusted t*	-6.6749	0.0000

Source: Research data 2022.

4.3.4 Test for Multicollinearity

Test for statistical phenomena in multiple regression analysis where analysis of two or more independent or predictor variables are highly correlated with each other or intercorrelated. In multiple regression analysis, the regression coefficients often become less reliable as the correlation between independent variable factors increases. A high correlation between any two or more independent variable factors creates multicollinearity (Levin & Rubin, 2009).

Multicollinearity compromises predictability of independent variables by giving false regression results (Belsley et al., 1980). Variance Inflation Factor of 2.5 is most appropriate while any value approaching 10 signifies presence of multicollinearity. From the findings, the VIFs for all variables were less than 10. This shows that there was no multicollinearity between the variables and therefore the variables were not significantly correlated.

In all, none of the correlation coefficients was near the 0.8 threshold, which indicates that there was no multicollinearity amongst the variables examined in this study. This suggests that multicollinearity is not a problem in this study (Gujarati,2004).

Table 4.7 Multicollinearity Test Results

Variable	Tolerance	VIF
Firm Size	0.658	1.519
Capital Adequacy	0.442	2.262
Claim Costs	0.364	2.747
Capital Structure	0.516	2.747

Source: Research data (2022)

4.3.5 Heteroscedasticity Test

Breusch-Pagan/Cook-Weisberg test was used to test for heteroskedasticity. The null hypothesis in the test is that error terms have a constant variance (i.e., Homoskedasticity). The results in the Table 4.8 below indicate that the error terms are heteroskedastic, given that both p-values (ROA=0.000 and ROE=0.000) were less than the 5% significant level.

That means that there was no Heteroskedasticity, the regression model does not violate the homoscedasticity assumption. Therefore, it means that the null hypothesis of the errors terms was homoscedastic and was not rejected because heteroskedasticity was not a problem in the data.

Table 4.8 Heteroscedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Ho: Constant variance

Ha: Heteroscedasticity

Variable: fitted values	RoA	RoE
Pro>chi ² (1)	.0000	0.000
Chi ² (2)	0.7468	0.6914

Source: Research data (2022)

4.3.6 Auto-correlation Tests

The Durbin-Watson statistic lies in the range 0 - 4. A value of 2 or nearly 2 indicates that there is no first-order autocorrelation. An acceptable range is 1.50 - 2.50. Where successive error differences are small, Durbin-Watson is low (less than 1.50); this indicates the presence of positive autocorrelation.

The Durbin Watson test looks for a specific type of serial correlation i.e., first order correlation (the lag is 1 unit). The Hypotheses for the Durbin Watson test are:

H0 = first order autocorrelation does not exist.

H1 = first order autocorrelation exists.

The Durbin Watson of 2 signifies absence of autocorrelation.

d < 2 means positive autocorrelation

2 < d ≤ 4 means negative autocorrelation

A general rule is that DW test statistic whose values range from 1.5 to 2.5 are usually acceptable. However, the values outside of this range cannot be acceptable. Values under 1 or more than 3 are a definite cause for trouble. Since the DW test figure falls within the acceptable range, it is concluded that there was serial autocorrelation.

Table 4.9 Auto-correlation Tests

Source	SS	df	MS	
				Number of obs = 60
				F (5, 54) = 1.42
Model	.163400501 .0326801	5		Prob > F = .2320
Residual	1.24315724 .02302143	54		R-squared = 0.1162
				Adj R-squared = 0.0343
	Total	1.40655774	59	.023839962
				Root MSE = .15173

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
FS	.0138578	.02935	0.47	0.639	-.0449854 .0727009
CA	.0125518	.0106555	1.18	0.244	-.0088112 .0339148
CC	.0792755	.1211746	0.65	0.516	-.1636649 .3222159
CS	-.0332752	.0138454	-2.40	0.020	-.0610335 -.005516
Cons	-.1766564	.3269866	-0.54	0.591	-.832225 .4789123

Source: Research data (2022)

4.4 Correlation Analysis

Correlation is a statistical method used to assess a possible linear association between two continuous variables. The study subjected to Pearson's correlation analysis for the insurance firms listed in NSE on the following variables: firm size, capital adequacy, claim costs, capital structure and firm age on RoA and RoE.

Results in Table 4.10 depicts the correlation between the explanatory and response variables. It is observed that firm size as proxied by LnA ($r = 0.2512$, $p = 0.0046$) had a positive but weak significant correlation with return on assets in conformity with Vinasithamby (2015) and Ghafoor & Iram (2020). This study uses data from five emerging economies, i.e. Brazil, Russia, India, China and South Africa (BRICS). In addition, Vijayakumar & Tamizhselvan (2010) found that firm size had a significant impact on the financial performance from five emerging economies (BRICS). Similarly, the study revealed a weak positive and statistically significant relationship between capital adequacy and RoA of ($r = 0.0451$, $p = 0.000$) in agreement with Abass et al (2021).

In terms of claim costs, findings indicated existence of a weak negative statistically significant association with RoA ($r = - 0.1196$, $p = 0.027$) in agreement with Afolabi (2018). There was a weak positive and statistically significant relationship between capital structure and RoA ($r = 0.2784$, $p = 0.0015$) in agreement with Kodongo (2014)

In terms of the second proxy of financial performance, RoE, results in the table 4.10 depicted a weak positive statistically significant relationship between firm size ($r = 0.2784$, $p = 0.0013$) with RoE in

agreement with Akram & Ahad (2021). Similarly, there was a weak positive statistically significant relationship between capital adequacy and RoE ($r = 0.0575$, $p = 0.000$) in agreement with Sebayang (2019). In addition, there was a negative statistically significant relationship between claim costs and RoE ($r = -0.2267$, $p = 0.0315$) in compliance with Santoso et. al (2020). In terms of capital structure, there was a weak positive statistically significant relationship between capital structure and RoE ($r = 0.0781$, $p = 0.0033$) in compliance with Abor (2014).

Table 4.10 Correlation Table

	RoA	RoE				LnA CC
CA						
CS						
ROA	1.0000					
ROE	0.3893 0.0021	1.0000				
LnA						0.2512
0.2784	1.0000					
	0.006	0.0013				
CA	0.0451 0.0000	0.0575 0.0000	0.2320 0.0044	1.0000		
CC	-0.1196 0.0027	-0.2267 0.0315	0.3014 0.0193	0.0408 0.0004	1.0000	
CS	0.2781 0.0015	0.0781 0.0033	0.1132 0.0091	0.2436 0.0007	0.2398 0.0050	1.0000

Source Research Data (2022)

4.5 Regression Analysis on RoA

R square was used to check how well the model fitted the data. The study was supported by coefficient of determination R square of 0.574. This means that independent variables explain 57.4% of the variations in the dependent variables. Results revealed a positive statistically significant relationship between firm size and RoA ($\beta = 0.750$, $p = 0.009$) in conformity with Serrasqueiro and Nunes (2008), Lee (2009), Hardwick, 1997; Fiegenbaum and Karnani, (1991).

Regarding capital adequacy, results document a positive statistically significant relationship with return on assets with a coefficient of $\beta = 0.459$, and $p = 0.000$ complying with Maaka (2013) and Alshatti (2015).

Further, the results revealed a negative statistically significant relationship between claim costs and RoA with a coefficient of $\beta = -0.186$, $p = 0.000$ in agreement with Campello (2006). This will not only enhance payment of only genuine claims, it will also aid the profitability of the firm through reasonable cost control. Finally, the study posted a positive and significant relationship between capital structure and return on assets with a coefficient of $\beta = 0.0538$, $p = 0.012$ in compliance with Mahfoudh (2013) and Njoroge (2014).

The table for multiple regressions of the independent variables and dependent variable RoA of listed insurance firms in the NSE is as shown in Table 4.11

The regression model is indicated below;

$$Y = .042 + .75X_1 + .459X_2 - .186X_3 + .538X_4$$

Where: Y designates RoA

X₁ = Firm size

X₂ = Capital adequacy

X₃ = Claim costs

X₄ = Capital structure

Table 4.11 Regression on RoA

ROA	Coef.	Std. Err.	t	P> t 	[95% Conf.	Interval]
Firm size	0.075	0.006	12.5	0.009	0.136	0.008
Capital adequacy	0.459	0.038	12.978	0.000	0.272	0.465
Claim costs	-0.186	0.036	-5.167	0.000	-0.113	0.664
Capital structure	0.538	0.446	12.21	0.012	0.015	0.002
Constant	0.042	0.053	0.792	0.005	0.071	0.138
R-squared:	0.574					
RMSE	50.2122					
Prob	0.000					

Source: Research data (2022)

4.6 Regression Analysis of Firm characteristics on RoE

The R squared was used to check how well the model fitted the data. The study was supported by coefficient of determination R square of 0.829. This means that firm size, capital adequacy, claim costs and capital structure explain 82.9% of the variations in RoE.

The results revealed a positive statistically significant relationship between firm size and RoE with a coefficient of β 0.028, $p=0.004$ with a t- statistic of 2.33 in agreement with Velnampy, T., & Nimalathan, B. (2010) and Perinpanathan (2014). In addition, there was a positive statistically

significant relationship between capital adequacy and RoE with a coefficient of $\beta = 0.076$, $p=0.007$ with a t-statistic of 3.167 in agreement with Omesa (2015) and Njeri (2014). However, there was a negative statistically significant relationship between claim costs and RoE with a coefficient of $\beta = -0.069$, $p=0.000$ with a t statistic of -3.115 in agreement with Dansu (2014). Finally, there was a positive statistically significant relationship between capital structure and RoE with a coefficient of $\beta = .083$, $p=0.009$ in agreement with Hakima (2017).

The regression model is indicated below;

$$Y = 0.420 + 0.028X_1 + 0.076X_2 - 0.069X_3 + 0.083X_4$$

Where: Y designates RoE (Return on Equity)

X_1 = firm size

X_2 = Capital adequacy

X_3 = Claim costs

X_4 = Capital structure

Table 4.12 Regression on RoE

RoE	Coef.	Std. Erro	t	P> t	[95% Conf.	Interval]
Firm size	.028	.012	2.333	.004	.205	.079
Capital adequacy	.076	.024	3.167	.007	.028	.447
Claim costs	-.069	.023	-3.115	.000	-.409	.755
Capital structure	.083	.009	3.271	.001	.028	.001

Constant	.420	.062	0.530	.003	.092	.528
R-squared:	.829					
RMSE	45.130					
Prob	0.000					

Source: Research data (2022)

4.7 Moderation Influence of Firm Age on RoA

There was an overall moderating effect signified by R-squared change of 18.8% (from 57.4% before moderation to 76.2% after moderation). Individually, there was a positive statistically significant moderating influence of firm age on the relationship between firm size and RoA with a coefficient of $\beta = 0.088$, $p=0.001$ and t-statistic of 12.6. Similarly, there was a positive statistically moderating influence of firm age on the relationship between capital adequacy and RoA with a coefficient of $\beta=0.664$, $p=0.000$ and t-statistic of 9.3. However, there was a negative statistically significant moderating influence of firm age on the relationship between claim costs and RoA with a coefficient of $\beta = - 0.437$, $p=0.000$ and t-statistic of -9.93. Finally, there was a positive statistically significant moderating influence of firm age on relationship between capital structure and RoA with coefficient of $\beta = 0.686$, $p=0.000$ and t-statistic of 12.01. In summary this finding concurred with (Kaguri, 2013).

Results for the listed firms are presented in Table 4.14.

$$Y = 0.124 + 0.088X_1 *M + 0.664X_2 *M - 0.437X_3 *M + 0.686X_4 *M$$

Where: Y designates Return on Asset

X_1 = Firm size

X_2 = Capital adequacy

X_3 = Claim costs

X_4 = Capital structure

M = Firm Age as Moderating variable

Table 4.13 Moderation Effect of Firm Age Results on RoA

	Coef.	Std. Err.	T	P>t	95%Conf.	Interval
LnA*Firm Age	0.088	0.001	12.6	0.001	0.124	0.002
CA*Firm Age	0.664	0.048	13.8	0.000	0.256	0.403
CC*Firm Age	-0.437	0.044	-9.93	0.000	0.134	0.548
Capital structure*Firm Age	0.686	0.057	12.01	0.000	0.012	0.003
Constant	0.124	0.025	6.47	0.000	0.082	0.132
R-squared:	0.762					
F (6 , 10)	50.56					
Prob	0.000					

Source: Research data (2022)

4.8 Moderation Influence of Firm Age on RoE

There was an overall moderating influence of firm age on the relationship between Firm Characteristics and RoE depicted by R square of 4.6% (from 82.9% before moderation to 87.5% after moderation. Individually, there was a positive statistically significant moderating influence of firm age on the relationship between Firm Size and RoE with a coefficient of $\beta = 0.035$, $p=0.025$ and t-statistic of 8.750. In addition, there was a positive statistically significant moderating influence of firm age on the relationship between Capital Adequacy and RoE with a coefficient of $\beta = 0.093$, $p=0.000$ and t-statistic of 9.3. However, there was a negative statistically significant moderating influence of firm age on the

relationship between claim costs and RoE with a coefficient of $\beta = - 0.098$, $p = 0.000$ and t-statistic of -3.92. Finally, there was a positive statistically significant moderating influence of firm age on the relationship between capital structure and RoE with coefficient $\beta = 0.017$, $p = 0.001$ and t-statistic of 5.667. In summary, these findings concurred with Pervan, Pervan and Ćurak (2017).

Moderation model is hereby presented;

$$Y = 0.035 + 0.093X_1 *M + 0.093X_2 *M - 0.098X_3 *M + 0.017X_4 *M$$

Where: Y designates RoE

X_1 = Firm Size

X_2 = Capital Adequacy

X_3 = Claim Costs

X_4 = Capital Structure

M = Firm Age as a Moderating variable

Table 4.14 Moderation Effect of Firm Age on RoE

RoE	Coef	Std. Error	t	P> t	95% Conf	Interval
Firm size*Firm Age	0.035	0.004	8.750	0.0250	0.002	0.000
Capital adequacy *Firm Age	0.093	0.001	0.001	0.000	0.002	0.004
Claim costs*Firm Age	-0.098	-0.098	-3.92	0.000	0.003	0.004
Capital structure*Firm Age	0.017	0.003	5.667	0.001	0.001	0.000
Constant	0.244	0.058	4.210	0.001	0.093	0.176
R-square	0.875					
F (4,10)	42.26					
Prob	0.005					

Source: Research data (2022)

4.9 Hypotheses Tested

Hypotheses were tested at 5% level of significance as follows:

H₀₁: Firm size has no statistically significant influence on financial performance of insurance firms listed at NSE Kenya.

In this study, firm size was proxied by natural log of total assets (LnA). In this case, there is only one hypothesis tested.

H_{01.1} There is no statistically significant relationship between LnA and financial performance of insurance firms listed at NSE in Kenya.

The finding in this study, based on the first objective was that firm size had no statistically significant influence on financial performance of insurance firms listed at NSE in Kenya.

The results in Table 4.9 and Table 4.10 on RoA and RoE respectively indicated that firm size had a positive and significant relationship with RoA ($\beta = 0.075$, $p = 0.009$) and RoE ($\beta = 0.028$, $p = 0.004$). This indicates that a unit increase in capital adequacy would increase RoA by 0.075 and likewise increase RoE by 0.028. The null hypothesis was therefore rejected as p values were less than 0.05 in RoA and RoE in agreement with (Mahfoudh, 2013; Njoroge 2014; Serrasqueiro and Nunes 2008, and Lee 2009).

H₀₂: Capital adequacy has no statistically significant influence on financial performance of insurance firms listed at NSE in Kenya.

H₀₂: There is no statistically significant relationship between Capital Adequacy and financial performance of insurance firms listed at Nairobi Securities Exchange in Kenya.

The finding in this study, based on the second objective was that Capital adequacy had no statistically significant influence on financial performance of insurance firms listed at NSE.

Results in Table 4.9 and Table 4.10, on RoA and RoE indicate that capital adequacy had a positive statistically significant relationship on RoA with a coefficient of $\beta = 0.459$, $p = 0.000$ and RoE with a coefficient of $\beta = 0.076$, $p = 0.007$). This indicates that a unit increase in capital adequacy would increase RoA by 0.459 and likewise increase RoE by 0.076. The null hypothesis was therefore rejected as p-value of RoA was 0.000 and RoE was $p = 0.007$ which were less than p-value of 0.05. The findings were in agreement with (Maaka, 2013 and Alshatti, 2015).

H₀₃: Claim costs has no significant influence on financial performance of insurance firms listed at NSE in Kenya.

H₀₃: There is no significant relationship between Claim Costs and financial performance of insurance firms listed at Nairobi Securities Exchange.

The finding in this study, based on the third objective is that claim costs has no statistically significant influence on financial performance of insurance firms listed at NSE. The finding in this study, based on the third objective is that claim costs has no statistically significant influence on financial performance of insurance firms listed at NSE in Kenya.

Results in Table 4.9 and Table 4.10 on RoA and RoE indicated that claim costs had a negative statistically significant relationship with RoA ($\beta = -0.186$, $p = 0.000$) and RoE ($\beta = 0.069$, $p = 0.000$). This indicated that a unit increase in claim costs would decrease RoA by - 0.186 and likewise decrease RoE by - 0.069. The null hypothesis was therefore rejected as $p\text{-value} = 0.000$ for RoA and $p\text{-value}$ for RoE was $p = 0.000$ which were less than 0.05.

These results are consistent with previous research conducted by (Putra, 2015; Yusuf & Dansu, 2014; Mazviona, Dube, & Sakahuhwa, 2017; Marwansyah & Utami, 2017; Mazviona, Dube, & Sakahuhwa, 2017)

H₀₄: Capital structure has no statistically significant influence on financial performance of insurance firms listed at NSE in Kenya.

H_{04:1} There is no statistically significant relationship between Capital Structure and financial performance of insurance firms listed at NSE.

The finding in this study, based on the fourth objective was that capital structure had no statistically significant influence on financial performance of insurance firms listed at NSE. The results in Table 4.9 and Table 4.10, on RoA and RoE respectively indicated that capital structure had a positive statistically significant relationship with RoA ($\beta = 0.5380$, $p = 0.012$) and RoE ($\beta = 0.083$, $p = 0.001$). This indicated that a unit increase in capital structure would increase RoA by 0.538 and likewise increase RoE by 0.083. The null hypothesis was rejected as RoA had a $p\text{-value}$ of 0.012 whereas RoE had a $p\text{-value}$ of

RoE 0.001 which were less than 0.05. These findings agreed with Adesina, J.B & Nwidobie, B.M (2015).

However, there are other researchers who found a negative correlation between capital structure and financial performance. Such kind of research study is that of Rajan & Zingales (1995) who did a study on the capital structure determinant of common corporations in seven big economies in the world such as Canada, America, Japan, Italy, Germany, France, and Britain for the period 1987-1991. The investigation sampled 4557 firms taken from the seven countries. The results showed that leverage impacts negatively the profitability of the firm.

H₀₅: Firm age does not moderate the relationship between the firm characteristics and financial performance of listed insurance firms at the NSE.

Findings indicated that there was a positive statistically significant moderating influence of firm age on the relationship between firm characteristics and RoA as depicted by R square of 18.8 from 57.4% before moderation to 76.2% after moderation. There was a positive statistically significant moderating influence of firm age on the relationship between firm size and RoA with a coefficient of 0.088 at p-value of 0.001. Similarly, there was a positive statistically significant moderating influence of firm age on the relationship between capital adequacy and RoA with a coefficient of 0.664 at p-value of 0.000. However, there was a negative statistically significant moderating influence of firm age on the relationship between claim costs and RoA at a coefficient of – 0.437 at p-value of 0.000. Finally, there was a positive statistically significant moderating influence of firm age on the relationship between capital structure and RoA.

There was an overall moderating influence of firm age on the relationship between Firm Characteristics and RoE depicted by R square of 4.6% (from 82.9% before moderation to 87.5% after moderation. There was a positive statistically significant moderating influence of firm age on the relationship between firm size and RoE with a coefficient of 0.035 at p-value of 0.025. Similarly, there was a positive statistically significant moderating influence of firm age on the relationship between capital adequacy and RoE with a coefficient of 0.093 at p-value of 0.000. However, there was a negative statistically significant moderating influence of firm age on the relationship between claim costs and RoE at a coefficient of – 0.098 at p-value of 0.000. Finally, there was a positive statistically significant moderating influence of firm age on the relationship between capital structure and RoE at a coefficient of 0.017 at p-value of 0.001.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the actual findings of this study, sets out the relevant conclusions and makes recommendations for practice and suggestions for further research based on the findings. The study sought to establish the influence of firm characteristics on financial performance of insurance firms listed in the Nairobi Securities Exchange in Kenya. It established the relationship among variables; firm size, capital adequacy, claim costs and capital structure, moderated by firm age on financial performance of insurance firms listed in the Nairobi Securities Exchange.

5.2 Summary of Findings.

Four variables studied revealed significant correlations among them with firm characteristics having a direct correlation with financial performance of listed insurance firms. Individually, the characteristics were moderated by firm age at a significant level as well as jointly.

Objective one was hypothesized as there was no significant influence of firm size on financial performance of listed insurance firms at the NSE.

Findings indicated that there was a positive and significant relationship between Firm Size and RoA ($\beta = 0.750$, $p = 0.009$, t-statistic of 12.5 that was higher than the critical t-statistic of 1.96). Similarly, there was a positive statistically significant relationship between Firm Size and RoE ($\beta = 0.028$, $p = 0.004$, t-statistic of 2.33). The study thus rejects the null hypothesis.

Objective two was hypothesized as there was no significant influence of capital adequacy on financial performance of listed insurance firms at the NSE.

Findings indicated that there was a positive and significant relationship between capital adequacy and RoA ($\beta = 0.028$, $p=0.004$, t-statistic of 2.33). Similarly, there was a positive statistically significant relationship between capital adequacy and RoE ($\beta = 0.076$, $p=0.007$, t-statistic of 3.167). The study thus rejected the null hypothesis.

Objective three was hypothesized as there was no significant influence of claim costs on financial performance of listed insurance firms at the NSE.

Findings indicated that there was a negative statistically significant relationship between Claim costs and RoA ($\beta = 0.186$, $p = 0.000$, t-statistic of $- 5.167$). Similarly, there was a negative statistically significant relationship between claim costs and RoE ($\beta = - 0.069$, $p=0.000$, t-statistic of $- 3.115$). The study therefore rejected the null hypothesis. The study therefore rejected the null hypothesis.

Objective four was hypothesized as there was no significant influence of capital structure on financial performance of listed insurance firms at the NSE.

Findings indicated that there was a positive statistically significant relationship between capital structure and RoA ($\beta = 0.538$, $p=0.012$, calculated t-statistic of 12.21). Similarly, there was a positive statistically significant relationship between Capital structure and RoE ($\beta = 0.083$, $p=0.001$, t-statistic of 3.271). The study thus rejected the null hypothesis.

Objective five: to determine the moderating influence of firm age on the relationship between firm characteristics and financial performance of listed firms in the NSE.

Objective five was hypothesized as there was no moderating influence of Firm age on the relationship between Firm Characteristics and Return on Equity of listed firms at the NSE.

There was an overall moderating influence of firm age on the relationship between Firm Characteristics and RoE depicted by R square of 4.6% (from 82.9% before moderation to 87.5% after moderation). Similarly, with regard to RoA, R² before moderation was 57.4% which increased to 76.2% depicting a moderation of 18.8%. Findings indicated that there was a positive statistically significant moderating influence of firm age on the relationship between firm size and RoA ($\beta = 0.035$, $p = 0.025$ with t-statistic of 8.750). Similarly, there was a positive statistically significant moderating influence of firm age on the relationship between capital adequacy and RoA ($\beta=0.093$, $p=0.000$ with t-statistic of 9.300). However, there was a negative statistically significant relationship between claim costs and RoA ($\beta = -0.098$, $p = 0.000$ with t-statistic of 3.92). Finally, there was a positive statistically significant moderating influence of firm age on the relationship between capital structure and RoA ($\beta =0.017$, $p=0.001$ with t-statistic of 5.667). These findings agreed with Pervan, Pervan and Ćurak (2017) and Kaguri (2013).

5.3 Conclusion

Resilience of business organizations in an economy rest on strong foundations of Insurance subsector. It is therefore prudent that listed insurance firms are kept in check through strong supervisory umbrella of Insurance Regulatory Authority. Cases of insurance firms going under such as Lake Star Insurance and Kenya National Assurance informed this study as they revealed a soft underbelly of risk laden financial institutions generally. Re-insurance as a factor in the insurance subsector is a strong macro prudential as well as micro prudential safety net. Claim

costs is a major dent in financial health of an insurance firm. Massive coordinated fraudulent claims on an insurance firm are predictive in placing such a firm on statutory management. The Insurance Regulatory Authority has a huge task of enhancing its supervisory wing both onsite as well as off-site the listed insurance firms.

5.4 Implications and Recommendations of the Study

5.4.1 Implications for Theory

Objective one was hypothesized as there was no significant influence of firm size on financial performance of listed insurance firms at the NSE. Findings indicated that there was a positive statistically significant relationship between Firm Size and RoA with a β coefficient of 0.750, $p=0.009$, and t-statistic of 12.5. Similarly, there was a positive statistically significant relationship between Firm Size and RoE with a β coefficient of 0.028, $p=0.004$, and t- statistic of 2.33. The study thus rejected the null hypothesis. This finding is in support of pecking order theory allowing firm managers (agents) to opt for debt financing with regard to cost implications. Corporate tax is cushioned by a tax shield on interest payments.

Objective two was hypothesized as there was no significant influence of capital adequacy on financial performance of listed insurance firms at the NSE. Findings indicated that there was a positive statistically significant relationship between capital adequacy and RoA with a β coefficient of 0.028, $p = 0.004$, and t-statistic of 2.33. Similarly, there was a positive statistically significant relationship between capital adequacy and RoE with a β coefficient of 0.076, $p = 0.007$, and t-statistic of 3.167. The study thus rejected the null hypothesis. This is in line with Agency theory as managers are obligated to ensuring that their firms comply with statutory requirements such as minimum capital base.

Objective three was hypothesized as there was no significant influence of claim costs on financial performance of listed insurance firms at the NSE. Findings indicated that there was a negative statistically significant relationship between Claim costs and RoA with β coefficient of 0.186, $p = 0.000$, and t-statistic of $- 5.167$. Similarly, there was a negative statistically significant relationship between claim costs and RoE with a β coefficient of $- 0.069$, $p=0.000$, and t-statistic of $- 3.115$. The study therefore rejected the null hypothesis. This is in agreement with Agency theory as managers determine genuine claims on their firms at the expense of their shareholders. High levels of claims on the firm reduces profitability which lowers dividend payments to shareholders.

Objective four was hypothesized as there was no significant influence of capital structure on financial performance of listed insurance firms at the NSE. Findings indicated that there was a positive statistically significant relationship between capital structure and RoA with a β coefficient of 0.538, $p = 0.012$, and t-statistic of 12.21. Similarly, there was a positive statistically significant relationship between Capital structure and RoE with a β coefficient of 0.083, $p= 0.001$, and t- statistic of 3.271. The study thus rejected the null hypothesis. This is in agreement with both Agency theory and Pecking order theory as manager agents are obligated to make both business and strategic decisions impacting shareholder wealth maximization.

Objective five was hypothesized as there was no moderating influence of Firm Size on the relationship between Firm Characteristics and RoE of listed firms in the Nairobi securities exchange.

There was an overall moderating influence of firm age on the relationship between Firm Characteristics and RoE depicted by R square of 4.6% (from 82.9% before moderation to 87.5% after moderation). Similarly, with regard to RoA, R^2 before moderation was 57.4% which increased to 76.2% depicting a moderation of 18.8%. Findings indicated that there was a positive statistically significant moderating influence of firm age on the relationship between firm size and RoA ($\beta = 0.035$, $p = 0.025$ with t-statistic of 8.750). Similarly, there was a positive statistically significant moderating influence of firm age on the relationship between capital adequacy and RoA ($\beta=0.093$, $p=0.000$ with t-statistic of 9.300). However, there was a negative statistically significant relationship between claim costs and RoA ($\beta = -0.098$, $p = 0.000$ with t-statistic of 3.92). Finally, there was a positive statistically significant moderating influence of firm age on the relationship between capital structure and RoA ($\beta = 0.017$, $p=0.001$ with t-statistic of 5.667). These findings agreed with Pervan, Pervan and Ćurak (2017) and Kaguri (2013). This is in line with Modigliani and Miller' Capital Irrelevance Theory. Value of the firm in this study was depicted by Firm size (Assets) whose procurement could be through Debt financing, Retained earnings financing, Equity financing or hybrid financing (Preferred stock).

5.4.2 Implications for Management Policy and Practice

Findings from objective one revealed that there was a positive and significant relationship between Firm Size and both RoA and RoE. For management practice purposes, this study

recommends that insurance firms should enhance their asset base to boost financial performance levels emanating from economies of scale and synergies.

Findings from objective two indicated that there was a positive and significant relationship between Capital Adequacy and both RoA and RoE. For management policy purposes, this study recommends compliance with statutory minimum capital requirement as buffer against firm liabilities.

Findings from objective three indicated that there was a negative and significant relationship between Claim Costs and both RoA and RoE. For management practice purposes, this study recommends that insurance firms should enhance their loss provisioning to curb unwarranted liquidity constraints and being placed under statutory management.

Findings from objective four indicated that there was a positive and significant relationship between capital structure and both RoA and RoE. For management policy purposes, this study recommends optimal allocation of debt-equity capital mix as a factor of cost benefit analysis of tax shield on corporate interest payments.

Findings from objective five indicated that firm age significantly moderated the relationship between Firm Characteristics and both RoA and RoE. For management policy and practice purposes, this study recommends adoption of strategic learning organizations as insurance firms go through their growth cycle. Stable firms at the cash cow business cycle should enhance their dividend signaling effect to curb subjecting their shareholders to withholding tax by encouraging

capital gains. Firms at the star business cycle should enhance their portfolio construction to manage increased capital outlay with sustained cash inflows.

5.4.3 Study Limitations

This study relied on quantitative data from published audited financial statement of the listed insurance firms. Published financial statements, unlike management accounts, are meant to portray a positive image to company publics. A mixed approach would have enriched the findings.

5.4.4 Recommendations for Future Studies

This study relied on quantitative data from Insurance Regulatory Authority data and Nairobi Securities Authority bank. Future studies could incorporate a mixed approach by including primary data captured from Claims Managers of Insurance firms.

In addition, the study relied on listed insurance firms due to their access to capital markets on the main investment wing of the Nairobi Securities Exchange. Future studies could target non listed insurance firms to capture their risk management strategies with restricted access to capital.

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LIST OF APPENDICES
APPENDIX I: DOCUMENT ANALYSIS GUIDE

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Variables										
Net profit after tax and Interest										
Total Assets.										
Shareholder's Equity										
Incurred Net Claims										
Net earned premium										
the log of firm assets										
Total debt										
Total claims per year										
No of claims per year										

APPENDIX II: JOOUST IERC RESEACH PERMIT

Approval to Conduct Research Titled "Firm Characteristics' Influence on Financial Performance of Insurance Firms Listed at the Nairobi Securities Exchange, Kenya"
Jaramogi Oginga Odinga

Approval Letter to Conduct Research from Ethics Review Commission
University of Science and Technology
Division of Research, Innovation and Outreach
Joust-Ethics Review Office
Tel. 057-2501804
Email: ere@jooust.ae.ke
Website: www.jooust.ac.ke

OUR REF: JOOUST/DVC-RIO/ERC/E3

Allan Okwenda Asola
B161 /4169 /2020
JOOUST

Dear Mr. Asola,

P.O. BOX 210- 40601
BONDO

16" May, 2022

RE: APPROVAL TO CONDUCT RESEARCH TITLED "FIRM CHARACTERISTICS' INFLUENCE ON FINANCIAL PERFORMANCE O F INSURANCE FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA "

This is to inform you that JOOUST ERC has reviewed and approved your above research proposal. Your application approval number is ERC 30/5/22-01. The approval period is from 16"May, 2022- 15" May, 2023.

This approval is subject to compliance with the following requirements:

- i Only approved
- ii All changes including (amendments, deviations and violations) are submitted for review and approval by JOOUST IERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to NACOSTI IERC within 72 hours of notification.

iv. Any changes, anticipated or otherwise that may increase the risks of affected safety or welfare of study participants and others or affect the integrity of the research must be reported to NACOSTI IERC within 72 hours.

V Clearance for export of biological specimens must be obtained from relevant institutions.

vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

Vii Submission of an executive summary report within 90 days upon completion of the study to JOOUST IERC.

Prior to commencing your study, you will be expected to obtain a research permit from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

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For

Prof. Francis Anga'wa

Chairman, JOOUST ERC

Copy to: Deputy Vice-Chancellor, RIO Director

APENDIX III: PROFILES OF LISTED INSURANCE FIRMS

Kenya Reinsurance Corporation Limited

Kenya Reinsurance Corporation Limited (Kenya Re) was established through an Act of Parliament in December 1970 and commenced business in January 1971. In 2004, the

Corporation made an effort to benchmark its services with international standards by subjecting itself to a rating process by an International rating Agency, A. M. Best. It was rated B (Fair).

Britam Holdings Plc

The Kenyan operation, British-American Insurance Co., was established in 1965 and has over 46 years of service in the Kenyan market providing individual life, group life, pensions, health care and property/casualty insurance. British-American Insurance Company (Kenya) Ltd has evolved over the years since its inception in Kenya in 1965. Britam Holdings PLC is a diversified financial services company.

CIC Insurance Group

CIC Insurance Group Started as a department of Kenya National Federation of Cooperatives (KNFC) in 1968. It is leading Micro and Co-operative insurance provider in Kenya with its subsidiaries involved in fund and asset management, general, medical insurance and life insurance, pension and annuities. The group's headquarters are located in Nairobi, Kenya.

Liberty Life Assurance Kenya Ltd

Liberty Life Assurance Kenya Ltd has provided insurance services in Kenya since 1964 and continues to offer a range of attractive investment, retirement, life and education solutions to individuals and businesses. Liberty Holdings Limited is majority owned by Standard Bank Group Limited which is the largest African banking group by total assets.

Sanlam Kenya Plc

Sanlam was established in 1918 as a life insurance company. Today, the Group has a business presence in 33 countries in Africa, as well as in the USA, Malaysia, the UK, India and Australia. Sanlam Kenya PLC provides a comprehensive suite of financial solutions tailored to meet the distinctive Kenyan market needs. Sanlam is a leading diversified Pan-African financial services group listed on the Johannesburg and Namibian Stock Exchanges.

Jubilee Holdings Limited

Jubilee Holdings Limited is an investment holding company. The Company, through its subsidiaries provide a range of property and casualty insurance (general insurance), liability, health and life insurance, retirement products, and other financial related services. Its segments include General, which relates to underwriting of property and liability insurance.

APPENDIX IV: BOARD OF POSTGRADUATE LETTER OF RESEARCH AUTHORIZATION



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
BOARD OF POSTGRADUATE STUDIES
Office of the Director

Tel. 057-2501804
Email: bps@jooust.ac.ke

P.O. BOX 210 - 40601
BONDO

Our Ref: B161/4169/2020

Date: 11th April 2022

TO WHOM IT MAY CONCERN

RE: ASOLA ALLAN OKWENDA – B161/4169/2020

The above person is a bonafide postgraduate student of Jaramogi Oginga Odinga University of Science and Technology in the School of Business and Economics pursuing a PhD in Finance. He has been authorized by the University to undertake research on the topic: *“Firm Characteristics’ Influence on Financial Performance of Insurance Firms Listed at the Nairobi Securities Exchange, Kenya”*.

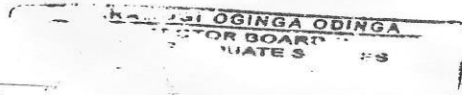
Any assistance accorded him shall be appreciated.

Thank you.





Prof. Dennis Ochuodho

DIRECTOR, BOARD OF POSTGRADUATE STUDIES




APPENDIX V: NACOSTI RESEARCH PERMIT


REPUBLIC OF KENYA
 Ref No: **713422**



**NATIONAL COMMISSION FOR
 SCIENCE, TECHNOLOGY & INNOVATION**
 Date of Issue: **21/July/2022**

RESEARCH LICENSE




This is to Certify that Mr.. ALLAN OKWENDA ASOLA of Jaramogi Oginga Odinga University of Science and Technology, has been licensed to conduct research in Nairobi on the topic: FIRM CHARACTERISTICS' INFLUENCE ON FINANCIAL PERFORMANCE OF INSURANCE FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA. for the period ending : 21/July/2023.

License No: **NACOSTI/P/22/18972**


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00100 Nairobi, KENYA Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077 Mobile: 0713 788 787 / 0735
404 245 E-mail: dg@nacosti.go.ke / registry@nacosti. Website: www.nacosti.go.ke**