# DETERMINANTS OF FINANCIAL PERFORMANCE AMONG KENYAN INSURANCE COMPANIES

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**DECLARATION**

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



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Approval

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## ABSTRACT

The past two decades have seen the collapse or near-collapse of several insurance companies in the country because of the inability to honor their obligations due to diminished net worth. Covering risks lies in their ability to generate value for their shareholders and firms. Past studies had conflicting outcomes on the factors that influenced the insurance companies's financial performance. The paper focused on assessing the factors that affected an insurance company's financial performance. The study scrutinized the effects of underwriting risk, the influence of solvency, the impact of premium growth, and firm size on the financial returns of Kenyan insurance firms. The study also considered the moderating effect of market share on the financial performance of insurance companies. The research used data collected from 55 listed Kenyan insurance companies. Secondary data sourced from the financial statements of insurance companies from 2012 to 2020.

The data analysis offered some critical insight into the issues that control the financial performance. The regression analysis showed that underwriting risk, firm size, premium growth together with solvency positively and substantially affected performance. However, once market share was introduced as the moderation variable, premium growth, underwriting risk, firm size, and solvency which are independent variables failed in having an influential relationship with the financial performance in the firm. The results from the present study indicate that insurance companies should focus on improving their premium growth, underwriting risk, firm size, and solvency, as this significantly impacts the company's performance. It is recommended that companies seeking a higher financial performance in the market should work to improve their premium growth, underwriting risk, firm size, and solvency. Although the results were insightful, a few limitations exist. The study was limited to a single sector. Similarly, the study's completion was during the COVID-19 pandemic, which affected many businesses. Therefore, this imposed some restrictions on the methodological choices made. Nevertheless, the study provides the basis for further research on the same subject.

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## LIST OF ABBREVIATIONS/ACRONYMS

**BV** - Book Value

**ROA** - Return on Assets

**IRA** - Insurance Regulatory Authority

**P/B** - Price to Book Ratio

**ROE** - Return on Equity

**DPS** - Divided Per Share

**EPS** - Earnings Per Share

**EVA** - Economic Value Add

**RBV** - Resource Based Theory

**ERM** - Enterprise Risk Management

## KEY TERMS DEFINITION

| | |
|---|---|
| **Firm Performance** | A subjective understanding of financial performance. It describes how a firm utilizes its assets to generate revenue. |
| **Underwriting Risk** | An insurance company bears risk due to inaccurate valuation of risks related to writing insurance policies and uncontainable factors (Barwell, 2013). |
| **Solvency** | Insurer risk acceptance that is impossible to absorb (Chen & Suchanecki, 2007). |
| **Premium Growth** | The periodical increment or decrease in the premiums earned by an insurance company (Cummins & Weiss, 2013). |
| **Firm Size** | It is derived from total assets' logarithm in the insurance company (Beck, Demirguc-Kunt, Laeven & Levine, 2005). |

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# CHAPTER ONE
# INTRODUCTION

## 1.1. Background of the Study

In the past decade, the number of insurance companies in Kenya has increased significantly, with 50 insurance companies offering services nationwide and five reinsurance companies. However, this has changed this sector's operational dynamics as the companies face an even more challenging task of improving their financial performance. This change has seen various insurance companies face serious repercussions. Several insurance companies have collapsed in the last two decades due to significant losses and diminishing financial performance. Examples of collapsed Kenyan insurance firms include but not limited to; Lakestar Insurance, Stallion Insurance Company Ltd, Kenya National Assurance Company (KNAC), United Insurance, Access Insurance Company, and Concord Insurance (Okoth, 2020). In addition, some more insurance companies are under statutory management, including Invesco Assurance Company, Standard Assurance, and Blue Shield Company (Mumo, 2017) and the latest being Resolution Insurance Company. The collapse and receivership are due to insolvency, which arises when the valuation of firms' assets is below their liabilities. This is regarded as poor profitability that potentially leads to a solvency record. According to Altman (1998), such a situation leads to a firm being considered potentially bankrupt or simply a business failure.

Effective risk management strategies are needed to moderate the ability of a company to create value for its stakeholders. Insurance companies play an essential role in economic development by offering security against risk (Agiobenebo & Ezirim, 2002). Notably, the 2007 global financial crisis ended up hurting the economies of both developing and developed countries. These crises began in the United States with high risks and losses and tricked down to other economies. As a result, the trade patterns of insurance firms were affected. Statistics report that the insurance industry's value worldwide decreased by 13% in 2009 compared to 2008. The studies from 2008 and 2009 assessing the decline of insurance firms in the US (United States) and the UK (United Kingdom) showed that the firm's size, leverage, and asset turnover are possible contributors (Batool & Sahi, 2020).

The insurance industry in Africa contributes to the financial stability and growth of the subsequent economies. Notably, the ability of insurance companies to support the development of the economies hinges on their ability to maintain high returns for their shareholders and create profits. A well-evolved and developed insurance sector supports

economic development this also translates higher returns for insurance firms through premiums, underwriting activities, annual turnover, investments, and equity returns-related profits (Ahmed, Ahmed, & Ahmed, 2010). Africa has been rated as one of the attractive regions for insurance companies. This has contributed to the steady economic growth in many African countries and an undeveloped insurance sector. Therefore, Africa is positioned as the second-fastest-growing region for insurance after Latin America. Notably, before the COVID-19 Pandemic, the insurance market was expected to grow by 7% between 2020 and 2025. Comparative analysis shows that this is twice as fast as North America and three times that of Europe and Asia (Bagus, 2020).

The insurance industry in Kenya is essential to the financial system. This is because of the enormous contribution by insurance companies to the economy's financial intermediation. Thus, the insurance industry's performance leads the entire economy's success. Identifying the factors that lead to a positive performance among insurance companies is essential. Additionally, recent activities by the Insurance Regulatory Authority have affected the market strategies by a majority of companies. For instance, the Insurance Regulatory Authority (IRA) has strengthened supervision visits, and risk assessments of the activities of insurance firms. The implication of this has been a transformation of the insurance sector through a change in the way companies approach marketing and their interactions with competitors. The recent changes in the Kenyan insurance sector make it important to evaluate the determinants of financial performance (Charumathi, 2012).

Both internal and external factors influence the general insurer's performance. The issues considered include specific characteristics, the external factors and macroeconomic variables (Baltensperger, Buomberger, Luppa, Wicki, and Keller, 2007). The insurance companies' performance should be assessed based the influence of external and internal factors. For example, it becomes necessary to consider how profitability is affected by various factors, for example capital, age, efficiency, size, and ownership (Gupta, 2008). Hence, this study will establish the firm-related factors that affect insurance companies' financial performance in Kenya.

### 1.1.1. Firm Performance

Multiple factors shape the financial performance of insurance firms. For example, Ayuba et al. (2019) suggest that age, size, and market share affect the insurance firm's performance. According to the results from Nduati (2018), a firm's financial capabilities are affected by solvency, financial leverage, and liquidity. The study also showed that age and size influenced insurance firms' performance. Wahome et al. (2015) also showed that the size of the firm and

risk influenced the company's financial performance. Other factors determining financial performance include liquidity risk, risk of underwriting, surplus capital and debt to equity ratio (Ishtiaq & Siddiqui, 2019). Deyganto and Alemu (2019) indicate that inflation and GDP growth was fundamental in shaping the financial returns of insurance companies. Many factors contribute to the insurance firm's financial performance, with both firm-specific and non-firm factors contributing to their performance.

Practically, financial performance determinants are subjective as they are based on establishing how well a firm uses its assets in revenue generation. Furthermore, measures of financial performance assess the firm's overall health over time (Jihadi et al., 2021). Fatihudin et al. (2018) indicate that financial performance in the firm is determined by collecting data over a period and allocating specific financial measures, including solvency, profitability, efficiency, and leverage. Furthermore, Fatihudin et al. (2018) acknowledge that the strategies and theories adopted to assess a firm's financial performance might vary. Therefore, from a fundamental point, the company's financial performance is determined by its ability to manage and control its resources.

A few other studies have considered using ROA to measure firm performance in place of EVA. Nakhaei and Hamid (2013) demonstrate that strong financial performance was a function of multiple factors, ROE, ROA, DPS, BV and EPS. Similarly, in a study examining firm performance, Rohmawati and Shenurti (2020) indicate that return on assets (ROA) and return on equity were sufficient in assessing the firm's performance. Additionally, Hendrani and Septyanto (2020) suggest that other factors could be used to evaluate the firm's performance, including its return on asset (ROA), company size, and debt-to-equity ratio. Moreover, Hendrani and Septyanto (2020) also used price to book value as a proxy for the company's performance under examination. Wahyuni and Gani (2022) also examined firm performance based on ROE, ROA and debt-to-equity ratio. Wahyuni and Gani (2022) showed a positive association between firm performance and other factors, including ROE, ROA, Asset Growth, and Market Book Value of Equity (MBVE).

### 1.1.2. Determinants of Firm Financial Performance

There are multiple approaches used to assess firm performance. According to Barney (2020), most of the theories used in evaluating the financial performance of companies are borrowed from the accounting and finance fields, with clear views on how a firm should increase its financial performance. However, Barney (2020) argues that strategic management approaches financial performance differently, away from the theories adopted in finance and accounting. As a result, strategic management often considers resources outside the firm's control. On the

other hand, accounting theories adopt measures including return on asset (ROA) and return on investment (ROI) to ascertain the financial performance of a firm (Barney, 2020). Modified measures of performance, for example, return on assets are used in determining the firm's financial health (Ahmad et al., 2019).

Despite their popularity, Barney (2020) argues that using accounting and finance-based measures of financial performance is often limited. Other researchers have demonstrated that different approaches could be used to assess economic performance. Olalekan (2018) suggests that liquidity risk and premium growth were adequate measures of the financial performance. Similarly, Deyganto and Alemu (2019) indicate that underwriting risk growth could also be used in measuring an insurance company's performance. Moreover, Deyganto and Alemu (2019) show that solvency could also be used to illustrate the performance of an insurance firm. Ayuba et al. (2019) assert that larger companies are expected to better performance than smaller firms. The same logic is applied to firm size. From this point of view, the market share of an insurance company could be used to denote the company's financial performance.

### 1.1.3. The Kenyan Insurance Industry

The prominent players in the Kenyan insurance sector are insurance companies, risk managers, brokers, insurance agents, reinsurance companies, and other service providers (Insurance Regulatory Authority, 2010). The insurance companies offer a vast of service range to their customers, such as underwriting the insurance companies, including determining the risk acceptability, terms of coverage, and the premiums to be given. They also undertake risk billing, premium collection, and claims investigation (Insurance Regulatory Authority, 2010). These activities are aimed at diversifying the risk securities services given to customers. However, the sector's development has seen more players enter the market with better profitability, enabling long-term business survival (AKI, 2016). Only 54 companies were registered by the end of 2016 under the Insurance Regulatory Authority (IRA); 27 were under the non-life insurance sector, 16 were under the life insurance sector, and 11 were under the composite industry, both life and non-life segments. An additional five reinsurance companies are registered by IRA (AKI, 2016).

Six insurance companies are listed on the Nairobi Securities Exchange (NSE). The six companies have a combined market valuation of KES 69.2 billion (Deloitte, 2019). CIC and Britam are overvalued. Britam Insurance Company PLC had a 9.5% downed overvaluation while CIC had a possible downside of 8.8%. On the other hand, Jubilee was undervalued with a total return of 32.1%, while Kenya Re was undervalued with 57.5%. Liberty Insurance valuation matched its real value in the market of a total return of 0.6%. Sanlam had a 27.6%

total return undervaluation. Insurance penetration was 2.4% of Gross Domestic Product (GDP) in 2018, a fall from the previous 2017's 2.6% recording. The drop off was due to high levels of competition in the industry. Between 2016 and 2017, there was an increase in shareholders' capital, reserves, and life fund from8.68% in 2016 to 10.79% in 2017. The company also witnessed a 12.21% and 12.57% respective total increase in assets, in 2017, compared to 9.13% and 9.25% in 2016. Net assets increased by 10.79% in 2017, then 8.68% in 2016 (AKI, 2018). Jubilee controls in the General Insurance business with a market share of 9.8%, while Britam leads in the long-term insurance market with 24.7% (Deloitte, 2019).

Business Monitor (2019) indicates that the industry has developed by 16% per annum during the past five years. The industry's gross premium was Kshs 55.03 billion in 2019 which translates to 23.7% increase from 2018 when gross premium was reported at Kshs 44.48 billion (IRA, 2019). The increase in premiums and penetration of insurance companies is below the anticipated level. The contribution of total insurance premiums to GDP is 3.16% in Kenya. The numbers are relatively low compared to other African countries. In South Africa, the levels are 14.16% and 8.0% in Namibia. Contribution of total insurance premiums to GDP in Malaysia was 5.94% (Swiss, 2013).

According to Deloitte (2020), premium revenue increases and increases in capital investments, the Kenyan insurance industry market has experienced consistent growth since 2013. On the other hand, the Return on Equity marks a decline from 2016. Notably, among the products offered by the Kenyan insurance companies, annuities, group credit, and investments were introduced in the market in 2015 and marked a steady growth rate. However, the permanent health division has not had significant growth since 2015. The downward trend in returns on equity due to squeezed sector margins and fraud cases has led to slow growth of the premiums, which has affected shareholders' returns (Deloitte, 2020).

In the past decade, the number of players in the insurance sector has increased significantly, with 50 insurance companies offering services nationwide and five reinsurance companies. However, this has changed this sector's operations dynamics as the companies face an even more challenging task to ensure higher financial performance. This change has seen various insurance companies not meeting stakeholders' expectations or experiencing huge losses seeking alternatives. Some of these include; Invesco Assurance Company which is under receivership in Sanlam, Kenya. CIC Insurance issued profit warnings in 2020, and Standard Assurance was established under statutory management in 2009 (Mumo, 2017). Additionally, Blue Shield Insurance was also put under liquidation in May 2017, showing that despite the sector's importance to the economy, it is very delicate, which raises concern about whether the

insurance firms will scale up their financial returns to increase their shareholders' wealth. Hence, this study seeks to establish whether the firm determinants can help scale the insurance companies' returns.

### 1.2. The Research Problem

Multiple studies have been conducted on various companies' determinants of financial performance. For instance, Cummins and Nini (2002) established that the company size and assets were influential determinants of the performance of United States' insurance firms. Additionally, Shiu (2005) found that solvency margin and return on equity were substantial contributors to the financial performance of insurance firms in the United Kingdom. In Kenya, Mutugi (2012) established that innovation, capital, and ownership structure were the determinants of the financial performance of insurance firms. Also, Wabita (2013) studied factors that determine insurance companies' success which led to the findings, that while the growth positively affected the leverage of the insurance industry had a negative effect.

Past studies on insurance companies' financial performance determinants have had conflicting outcomes. For instance, a study by Adams and Buckle (2013) concluded that risks related to underwriting have a positive effect on an insurance firm's performance. Still, Angima and Mwangi (2017), Arif and Sowket (2015), and Eneyew (2013) realized conflicting results, hence concluding that underwriting risk did not have a statistically significant effect on the performance of firms. Further, a study by Tarsono, Ardheta, and Amriyani (2019) found that premium growth does little significant effect on life insurance companies' performance, but Kaguri (2012), conducting a study in Kenya, established that premium growth was statistically significant in affecting a firm's financial performance. Also, Nzioka (2013) demonstrated a connection linking performance to size of commercial banks in Kenya. In contrast, Olawale et al. (2017) assert that the size of the firm determined by the firm's total assets harm the firm's performance.

Despite the benefits of the insurance sector to the economy, the past analysis shows that it is very delicate. Additionally, the previous failure of several insurance companies in Kenya raises concerns about whether the insurance firms will scale up. Thus, this situation has motivated the need to establish whether the performance of the companies can be improved through individual firm-specific factors. After all, the conflicting results of the past studies have presented a conceptual and empirical gap that this current research aims to address by focusing on the firm-specific determinants of financial performance. The study will find out which of these contrasting findings are relatable to insurance sector in Kenya. Further, most of the past studies have utilized general determinants. Thus, this current study intends to focus on the firm-

specific factors, namely, solvency, size, premium growth, and underwriting risk of the firm that is unique only to the insurance industry and not widely used.

Insurance firms are vital for the stability and sustainability of the financial systems in an economy as they are large markets in the financial markets. There are immense links between the insurance firms and other companies in an economy since insurers provide risk mitigation and safeguard the financial stability and growth of households and organizations (Tsvetkova et al., 2019). However, the insurance sector can be a source of vulnerability for the stock market, particularly the financial system if it does not optimally perform. Investors in the insurance sector too, are interested in the stock market performance of their investments implying that assessing the fundamental factors that determine insurance firms' performance is inevitable.

Thus, this current study will analyze the determinants of insurance firms' financial performance and how they affect the insurance sector in Kenya. To justify the need for this study, the conceptual approach incorporated a moderating variable (market share) and a control variable (firm size) to make the results more concrete. Majority of the studies on firm specific factors for insurance firms' performance did not incorporate moderating and control variables thus falling short of the potential influence of these aspects on their research findings.

### 1.3. Objectives of the Study

The study's primary objective was to analyze firm-specific determinants of insurance firms' financial performance.

The specific objectives of the study were;

i. To examine the effects of underwriting risk on the financial performance of insurance firms in Kenya.
ii. To determine the influence of solvency on the financial performance of insurance firms in Kenya.
iii. To ascertain the effects of premium growth on the financial performance of insurance firms in Kenya.
iv. To determine the controlling effect of firm size on the financial performance of insurance firms in Kenya.
v. To find out the moderating effect of market share on the financial performance of insurance firms in Kenya

### 1.4. Research Questions

This study will answer the following question.

i. Does underwriting risk influence the performance of insurance companies in Kenya?
ii. Does solvency affect the financial performance of insurance firms in Kenya?

iii. To what level does premium growth influence the financial performance of insurance companies in Kenya?

iv. Does firm size affect insurance companies' financial performance in Kenya?

v. Does market share moderate the link between selected firm specific-factors and financial performance of insurance companies in Kenya?

## 1.5. Significance of the Study

This section presents the significance of this study. The significance was categorized according to the various parties.

**1.5.1 Insurance Regulators:** The study should be helpful to insurance regulators. For example, it should provide insight into organizational factors that affect financial perfomance of insurance firms. Therefore, the information should be important in informing policy, and improving the insurance sector. The Insurance Regulatory Authority (IRA) could use the results obtained in the study to improve the industry's performance.

**1.5.2 Academia:** The study should also benefit academia in building research on determinants of financial performance. This study's findings will add to the literature on financial performance determinants for insurance companies. The research gaps assessed in this research should offer an opportunity for future research. The results could also enrich the firm financial performance literature, and researchers might find gaps that could require further research on the subject matter. Furthermore, the study should bring insights into what determines the performance in insurance companies in Kenya. This study should broaden the understanding of insurance, which has gained the interest of most researchers. The study could provide a basis for further studies. As a result, it will improve the research on financial performance by offering better understanding into the factors contributing to success.

**1.5.3 Insurance Companies:** The study is of great importance to the Kenyan insurance companies. It will enable the understanding of the factors that determine their financial performance. This study will significantly help the managers in these companies formulate various strategies to address these factors. Awareness of these factors will maximize and utilize them to gain a competitive advantage and boost their respective firms' financial performance. Additionally, the recommendations made at the end of the study will guide how the organizations align their resources and operations. Ultimately, this could help improve these companies' performance and financial performance.

**1.5.4 Policy Makers:** The insurance regulators and the government will also benefit from this study by formulating policies and legislation to regulate the firm-specific determinants to boost

the financial performance of the insurance firms operating in Kenya. The study findings will enhance the growth of the sector.

### 1.6. Scope of Study

The present research examines the firm-specific factors of insurance firms' financial performance and how they impact performance. The firm-specific characteristics of business applied in the current study are; premium growth, solvency, underwriting risk, and firm size. The justification for focusing on firm specific factors is based on Sukesti et al. (2021) argument that the financial performance of an organization is determined by examining the related economic and financial factors. Firm size, solvency, premium growth and underwiring risk are some of the factors associated with the performance of insurance firms. Through fundamental analysis, one can ascertain a firm's intrinsic value by utilizing firm specific factors. The study will adopt a correlational descriptive research design. Secondary data was obtained from the insurance company's financial statements and annual report. The study consisted of panel data from various insurance companies between 2012-2020. The study will focus on the Risk Retention Ratio, Operating Leverage Ratio, Premium Growth Ratio, Logarithm of Total Assets, and return on assets. Geographically, this study will examine Kenyan insurance companies.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1. Introduction

This chapter discussed the various theories underlying this study. In addition, an analytical and critical empirical review of related studies is presented, culminating in identifying research gaps. The chapter further describes the conceptual framework. More over a detailed description of the study variables is offered in this chapter.

## 2.2. Theoretical Review

The section below discusses the theories that bear the most significant relevance to the theme of this research, namely the resource-based view, enterprise-risk management theory, and intrinsic value theory. This study chose a multi-theoretical approach to provide a theoretical model that covers the multi-variables of the study since there is no single theory that relates to all the variables of the study.

### 2.2.1. Resource-Based Theory

The resource-based view (RBV) is a prominent theory focusing on strategic resources that a firm can use to ensure higher performance. This theory emerged in the 1980s and 1990s. Jay Barney is the leading proponent of this theory, who argued that resources available to a firm to generate a competitive advantage include imitability, rareness, and sustainability (Barney, 1991). RBV is a prominent theory in explaining, describing, and predicting organizational relationships (Barney, Ketchen Jr, & Wright, 2011). Barney et al. (2011) argue that RBV has reached maturity. Its significance might decline, which calls for significant changes in perspective.

Edwards (2018) argues that assets in a firm aid a firm in improving effectiveness and efficiency and help to neutralize competitor threats and capitalize on opportunities. Berry-Stölzle, Liebenberg, Ruhland, & Sommer (2012) support this idea by arguing that firms should capitalize on available assets to the full through corporate diversification, which is explained by the benefits of local capital markets expansion constraints such as company size and concentration. A firm can utilize these strategic resources to improve performance over time (Edwards, 2018). Schmidt & Keil (2013) suggested that a firm's assets that yield competitive advantage are determined by the difference in product or service market performance with or without the resource. Thus, this study will build on this theory by establishing how the firm size affects the financial performance of the firm.

A significant critique of RBV is that its application is too limited. Critiques questions the renormalizabilty of RBV. For example, questions about the uniqueness of resources deny RBV potential for generalizability since uniqueness is not generalizable. More so, the concept is more theoretical than practical since it is challenging to practically generate the degree of resource uniqueness. Additionally, RBV tends to apply to large firms with significant market share since smaller firms cannot be based on their static resources. Hence, they are out of the RBV parameters (Kraaijenbrink et al., 2009). Therefore, this study will focus on small and large firms and establish whether the criticism holds. RBV is well suited for this study since it relates to the size of a firm and market share, which are variables for this current study. Thus, this theory will be utilized to understand how firms should mobilize assets to achieve financial performance.

### 2.2.2. Enterprise Risk Management Theory

The Enterprise Risk Management Theory was developed in the 1970s by Paul Slovic, Daniel, Kahneman, and Amos Tversky while investigating ways organizations make decisions under risk and uncertainty. Enterprise Risk Management (ERM) represents management of risk from the perspective of an organization's directors and top executives. It focuses on controlling the aggregated exposure to net risk in an entire organization and the willingness of the firm to accept risk exposures. The theory entails risk aggregation and risk governance, where the directors adopt risk governance on behalf of shareholders to handle risk management. This is because managers tend to undermanage the high impact of low probability risks and manage the high salience-high probability risks that reduce the required cash flows in future. And so, governance of risk is a system that counteracts the behavioural biases and incentives that lead to several problems (Jankensgard 2019). Thus, this study examines the underwriting risk within insurance companies and establishes how they affect the company's financial performance.

On the other hand, directors adopt aggregation of risk to handle the problem of information of risk management. And so, aggregation of risk is a method that is utilized to ensure that information is aggregated and processed to support activities of managing and accessing the total risk-return profile of an organization. Thus, ERM relates to two main optimization issues. The organization tends to have an optimized collection of business risks whenever risk governance is successful. Agents make management of risk decisions not affected by behavioural biases and conflicts of interest, maximizing the projected future cash flows. And utilizing the aggregation of risk information, an organization optimizes the total risk-return profile. Thus, the organization's aggregate business balancing of risk against the possibility of taking the provided risk by the firm's economic capital (Jankensgard, 2019).

According to Fadun (2013), ERM is a holistic approach that recognizes the relationship between various risks and gains advantage by monitoring and evaluating companywide risks by aggregating them instead of viewing them independently. The insurance industry is regulated and governed by several regulators and industry associations, such as the Basel regulatory requirement for oversights of operational, market, and credit risks as a section of the institution's capital adequacy determinants. And so, ERM practices are advocated for the insurance industry. Hence this theory helps understand the underwriting risk variable of this study.

Enterprise Risk Management is vital in the insurance company since managing risks is the core function of insurance companies. Given the several risks associated with the insurance industry, insurers are more interested in ERM due to exposure to non-financial and financial risks, including underwriting risks. Hence it is necessary to manage underwriting risks holistically and across disciplines in the organization. Thus, given that most insurance companies embrace traditional risk management methods, there is a need to adopt a more holistic approach, such as ERM, to remain competitive. Hence, this study will apply this theory to understand how the underwriting risk variations affect a firm's financial performance.

Several consensuses have arisen concerning ERM theory, which has led to significant criticism. For instance, the Enterprise Risk Management theory assumes that managing portfolio risk is more efficient than managing the risks of individual subsidiaries, which are the parts and activities of a corporate-like the underwriting risk on its own. However, this approach is not only costly but unnecessary when investigating the risk of the portfolio. After all, in many cases, the risks of different departments are likely to cancel out each other. Further, the enterprise risk management theory incorporates both traditional and strategic risks. Therefore, all substantive decisions in the firm involve risk management concerns and the core risks that a company face is in the strategic areas where there is a shortage of relevant data; hence there is an issue of accuracy, estimation, and probability (Bromiley et al., 2015). Thus, this theory focuses on the underwriting risk and solvency part of the insurance company, which are important variables for this current study.

### 2.2.3. Intrinsic Value Theory

This theory, also called the theory of objective value, holds that the value of the object or service is intrinsic. Essentially, the value of an asset can be determined objectively. For example, the cost of producing an item would determine the value of an object and hence be used to determine its intrinsic value. Chambers (1964) acknowledges that it was possible to ensure objectivity in accounting by expressly defining the terms being measured in a given

situation. For example, while using estimates rather than absolutes in accounting is common, defining the measurements expressly can provide the basis for obtaining objective measures. Nakhaei and Hamid (2013) demonstrate that firm financial performance was a function of multiple factors, including return on equity, return on asset, divided per share (DPS), book value (BV), and earnings per share (EPS).

Similarly, in a study examining firm performance, Rohmawati and Shenurti (2020) indicate that return on assets (ROA) and return on equity were sufficient in assessing the firm's performance. Additionally, Hendrani and Septyanto (2020) suggest that other factors could be used to evaluate the firm's performance, including its return on asset (ROA), company size, and debt-to-equity ratio. Therefore, it is proposed that ROA, ROE, and Earnings per share will provide an effective way of objectively assessing the firm's financial accomplishments. Additionally, the ability of the firm to improve its solvency, liquidity, underwriting risk, market share, and size can also provide objective valuations of the measure of the firm's financial performance.

### 2.3. Empirical Review of the Study

The following section presents an empirical review of the studies conducted in the past on the firm determinants of firm financial performance.

#### 2.3.1. Underwriting Risk and Firm Financial Performance

Risk transfer commonly involves underwriting, which consists of insurers classifying risks and pricing them accordingly. And so, for insurance to achieve higher financial performance, it must be able to underwrite properly since the incorrect selection of risks can result in significant losses and failure of the insurer (Angima & Mwangi, 2017). Ansah-Adu, Andoh, & Abor (2012) examined the cost-efficiency of insurance businesses in Ghana using cross-sectional data from 30 firms from 2006 to 2008. The study found that an insurance firm is expected to record higher financial performance if it can collect more premiums beyond the money spent settling claims. Hence, they concluded that insurance companies must critically clarify their underwriting policies to avoid affecting their performance. Thus, since this study considers the overall performance of insurance companies, it leaves a gap as to whether the findings are the same for a firm's financial returns specifically, which this current research intends to clarify.

In comparison, Ahmed, Ahmed, and Ahmed (2011) considered the impact of Pakistan capital structure of life insurance companies by firm-level characteristics on the using the OLS regression method. The study revealed that the claims ratio significantly influenced the financial returns of an insurance company. This is because several claims tend to exhaust a firm's earnings, reducing its financial performance. Companies that make enough profits give

them back to the firm, thus showing positive performance. And so, insurance companies need to underwrite risks carefully. Hence, the current study will go beyond this past study by focusing specifically on underwriting risk.

A study conducted by Mwangi and Mirigu (2013) accessed how underwriting risk relates to performance in Kenyan insurance companies. Using secondary data between 2000-2011 and a descriptive design, they found that the insurance firms' underwriting risks and financial performance have a positive relationship, even though the relationship was statistically insignificant. Thus, this current study will consider broader measures of firm performance beyond underwriting risk. In comparison, Adams and Buckle (2013) surveyed the Bermudian insurance companies to determine their operational eficiency in the Bermuda Insurance Market. Through a panel data analysis between 1993-1997 of forty-seven firms, the study reports that underwriting risk positively affects performance.

In contrast, Angima and Mwangi (2017) established that the underwriting risk effects on the financial of casualty and property insurance firms in East Africa had conflicting results from that of Adams and Buckle. They found that underwriting risk explained 4% of the firm's financial performance differences. Additionally, Angima and Mwangi (2017), Arif and Sowket (2015), and Eneyew (2013) highlighted that underwriting risk did not have a statistically significant influence on the financial returns of firms. Therefore, with several studies establishing an insignificant effect of of underwriting risk on the financial returns of insurance firms, this current study intends re-examine how underwriting risk is related to financial performance focused on firms and find out whether the results will still be consistent with the past findings.

Wani (2005), conducting a study on factors affecting Indian insurance firms' financial performance, concluded that underwriting risk focuses on the insurers' efficiency in the underwriting activity, measured through the loss ratio. Underwriting risk reflects the insurer's adequacy in underwriting performance. The underwriting risk is affected by risky activities that can lead to more volatile cash flow than the risk-averse organizations. Thus, there is a negative connection between an insurer's firm financial performance and the underwriting risk. This is because taking excessive underwriting risk is likely to influence the company's steadiness through increased expenditures. More so, the insurance companies with considerable annual losses are likely to have high corporate management expenses, leading to a reduction in their reported financial returns. Further, Mukino (2018), conducting a study on the effect of financial risks on the Kenyan insurance company's financial performance, concluded that management of underwriting risks is critical in maintaining the performance of

firms amid tough market competition. He found that underwriting risk and expenses were vital indicators of an insurance company's returns. Thus, the study concluded that insurance firms must maintain an optimal level of underwriting to avoid underwriting loss exposure for better financial performance. Therefore, while some scholars found that underwriting risk has a positive impact with the firm's financial returns, others reported that the relationship was negative. There are contradictory findings on the significance of the effect of underwriting risk on the firm's financial performance. The current study hypothesizes that underwriting risk does not significantly affect insurance companies' performance, against the alternative hypothesis that underwriting risk significantly affects the firm's performance.

### 2.3.2. Solvency and Firm Financial Performance

Solvency accesses the relationship between the insurer's assets over its liabilities as defined by regulators. Therefore, solvency is the capital adequacy requirement for insurance companies. The minimum solvency margin in Kenya is registered by the Kenyan Insurance Act (CAP 487) and is utilized as a sign of an insurance company's financial soundness. Thus, section 41 and section 42 of the Act expect a long-term business to have assets exceeding liabilities by 5%. The margins need to exceed ten million shillings (IRA) for a short-term business.

Jawad and Ayyash (2019) studied the issues that influenced the solvency of insurance firms in Palestine. The study used a regression of fixed effects, using a 2010-2017 panel data found out that the solvency margin is usually affected by the operating margin, liquidity ratio, firm size, investment performance, growth of the firm's premium, underwriting result, and growth rate of surplus. Palestine is in Asia, which has different economic conditions than Africa. As a result, there is a need to establish whether these findings are true in other regions, which this study intends to fill.

Shiu (2005) conducted a study in the UK to establish that both business and economic factors determine solvency. The survey used panel data collected between 1986-1999 showed that solvency had a positive correlation with the bond-to-asset ratio and a positive relationship with the asset-equity ratio. In comparison, Caporale et al. (2017) considered the insolvency risk of 515 UK insurance businesses using data collected over 30 years. The study revealed that macroeconomic issues like actual exchange rates, interest rates, and foreign direct investment were crucial in assessing credit risk. In contrast, corporate factors like leverage, underwriting, reinsurance, liquidity, and organizational structure positively affect the insurer's insolvency. With an understanding of the aspects affecting the solvency of insurance firms in western countries, this current study intends to establish further how solvency affects the financial returns of insurance companies in Kenya.

Moreno et al. (2018) examined factors influencing Spanish insurance companies' solvency from 2008-2015. They realized that there was a positive correlation between solvency margins and the company's profitability. Hence, this current study intends to establish whether the same results apply to the Kenyan insurance companies financial performance. In comparison, Sufian (2011), in his investigation of the determinants of financial performance in Korean Banks using the data envelopment analysis, found out that liquidity, industry concentration, business risk, and solvency significantly influence the financial performance of the banks. Since this study concentrates on banking in an Asian country, this current study will focus on insurance companies in Kenya and establish whether the findings by Sufian can be replicated in a different industry and region.

A company's achievement of long-term financial capability to meet its long-term financial responsibilities, such as debt is limited by solvency. In practice, a company's solvency determines the company's ability to remain operational. Several researchers have considered the influence of solvency on a firm's financial performance. Deyganto and Alemu (2019) found a positive association between financial performance and the solvency ratio. The study found that a 1% company's solvency ratio increase resulted in a 15% increase in the profitability of the company. Mohseni and Sadeghi Shahedani (2019) also posted that, a positive relationship exists linking a firm's performance to the company's solvency. The researchers further show that the strategies adopted in managing the business contributed considerably to the company's performance, affecting the solvency ratio. For example, Oyetayo and Abass (2020) suggest that solvency concerning of insurance companies is determined by whether the companies have sufficient technical reserves and adequate capital as security. Furthermore, Oyetayo and Abass (2020) also found that solvency had a positive association with the performance of a given company.

### 2.3.3. Premium Growth and Firm Financial Performance

The premiums collected by insurance firms from customers pay the company's obligation in the future; hence they are related to a firm's performance. Some premiums are also reserved to ensure that the company does not suffer in the future if they find it difficult to pay its customers. And so, a rise in the premium growth ratio shows customer confidence in the insurance firm's financial performance. Tarsono, Ardheta, and Amriyani (2019) conducted a study in Bangladesh using a panel data regression and fixed-effect model. They found that the premium growth does not significantly affect the financial performance of life insurance companies. Contrastingly, Kaguri (2012), conducting a study in Kenya using qualitative data, established that premium growth was statistically significant in influencing a firm's financial returns. She,

therefore, concluded that premium growth was reliable in making conclusions about insurance firms' current and future performance. The two studies had contradicting findings, so this recent study will find out which of the two results applies to the insurance companies in Kenya.

Burca and Batrinca (2014) also examined the determinants of financial performance in the Romanian Insurance market using panel data techniques between 2008 and 2012. The results showed that premium growth influenced insurance companies' financial performance. In comparison, Derbali (2014) conducted a regression analysis on panel data for 2005-2012 in Tunisia to establish that premium growth positively correlated with the financial returns of insurance firms. He also found out that the relationship was statistically significant. Similarly, Kaya (2015) investigated twenty-four non-life insurance companies in Turkey using the panel data technique between 2006 and 2013. He found out that the premium growth of non-life insurance firms influenced the financial returns of insurance firm positively and was statistically significant. The above studies found a positive, statistically significant relationship. This study will focus on a different region in East Africa to determine whether the results will be the same.

A study by Lee (2014) in Taiwan used data collected between 1999 to 2009 to investigate the impact of firm-specific issues and macroeconomics profitability in the property-liability insurance sector. In the studies mentioned above, the findings showed a statistically significant relationship. Similarly, a study conducted by Malik (2011) on the causes of profitability in the Pakistan insurance industry, using secondary data for the panel data for the years 2005-2009, showed a premium growth significantly and positively affected the relationship with the financial returns of a firm. The present focused on a different period and a different geographical location to determine whether the results are the same as the past studies. Also, Mehari and Aemiro (2013) conducted a study using regression analysis of the panel data between 2005-2010 in Ethiopia to determine the firm-specific issues that assess insurance companies' returns in Ethiopia. The results indicate that total assets had a positive and statistically significant relationship with the financial performance. Thus, this current study intends to establish whether the findings of these studies are generalizable to the Kenya. Further, most of this study focused on the profitability aspect of financial performance. Hence, this current study seeks to establish whether the results will be similar for the Kenyan insurance sector, and add to the knowledge of how premium growth affects the financial performance of insurance companies.

Kaya (2015) used panel data to evaluate the factors influencing the performance of life insurance firms in Turkey and revealed that a rise in premium growth rate guarantees the

growth and increased market share, which impacts positively on the financial returns of the company. The study added that poor or excessive coordination of premium growth leads to other risks likely to endanger the company's existence. Additionally, Kim et al. (1995), conducting a historical analysis of insurers' insolvencies, found that rapid growth in premiums can cause insolvency, which might negatively affect the companies' performance. Further, Chen and Wong (2015) highlighted that an increase in premium growth rate increases a firm's financial performance due to the strong financial structure, low loss ratio, and suitable reinsurance policies. Therefore, this study will examine the null hypothesis that there is no significant relationship between premium growth and the insurance company's performance.

### 2.3.4. Firm Size and Firm Financial Performance

The company size determines the amount of debt that a firm can access for use in further investments or financing. Large companies have the advantage of economies of scale, and they can use an average cost of production due to the efficiency of their capacity and operations. Larger firms can access more debt than smaller ones because of the corporate reputation of stakeholders. The study conducted by Ismail (2013) in Malaysia to determine the general Takaful Insurance Companies financial performance determinants using panel data between 2004-2007 unveiled that the size of insurance firms positively affects their performance. This is because a larger company can cover more risks hence more income. This study used a location with a rapidly growing economy, thus leaving a question as to whether these findings are generalizable in a different economic location, which this study intends to answer by focusing on Kenya. Similarly, Ahmed et al. (2010), studying the determinants of capital structure in Pakistan using the OLS regression model, added that the asset ownership of a company is essential in determining the performance of the companies. The reasoning is that a company's size dictates the risks that the firm can cover without facing solvency issues. Further, size determines the returns on assets, ultimately determining the firm's performance. As a result, a firm with more assets has higher performance than the ones with fewer assets. However, the study by Ahmed et al. (2010) focused on life insurance only. This current study will assess whether the relationship holds for at all types of insurance firms.

Maja and Josipa (2012) considered whether firm size affected financial performance for insurance companies in Croatia using panel data gathered between 2002-2010. The results indicatd a significantly weak positive influence of firm size on the firm's profitability. In comparison, Abondo (2013) conducted a similar study in Kenya from 2008-to 2012 using secondary data. He found that the firm's size affected the financial performance of commercial banks in Kenya. This study only considered commercial banks, hence leaving room to examine

a what happens to the other financial companies, which this study will fill by focusing on insurance firms.

Further Dogan (2013) conducted a study using three-panel root tests to establish whether firm sizes and financial performance converge. He found a strong convergence between firm size and firm performance. Similarly, Nzioka (2013) also established that, the size of the firm and financial returns was related when focusing on Kenyan commercial banks when using secondary data collected between 2008-2012 and found a positive association between firm size and profits of commercial banks. While the studies considered the commercial bank sector, this current study will concentrate on insurance companies in Kenya to determine whether the results will be similar. Further, even though the past studies illustrate the relationship between firm size on performance, none of them explains the significance of the relationship, hence leaving a gap that this study intends to fill. However, in contrast, Olawale et al. (2017) examined the influence of firm size on the financial returns of 12 non-financial Nigerian companies with data collected between 2005 and 2013. The results indicated that total assets had a negative relationship with performance, while there was a positive relationship between total sales and performance in the market. These findings introduce a new perspective that this current study will build upon in finding out the difference between the total assets and total sales of the insurance companies in Kenya and how firm performance is affected.

A study conducted by Hardwick (1997) using financial economics models revealed that large insurance companies performed better than smaller companies due to an ability to create operational efficiencies through innovations and product development. Additionally, Wani (2005) pointed out that a positive correlation between the size of the company and its financial returns was expected since large firms have better economies of scale. Similar research by Swiss (2008), studying non-life insurance companies in Egypt, showed that large firms had a better growth rate, and younger firms grew at a better rate than older firms. Thus, they concluded a positive correlation between firm size and its performance. Similarly, Asimakopoulos et al. (2009), conducting a panel data analysis of the determinants of firm financial performance in Greece, found out that the profitability of companies is positively affected by the size, growth, and investment of the firms. Therefore, this current study will consider the null hypothesis that there was no relationship between firm size and Kenyan insurance companies' financial performance.

### 2.3.5. Market Share and Firm Financial Performance

Market share is the percentage of a company's transactions compared to the total market in a specific period. The market share shows the company's present value within the market and

the power it has in the industry. Hence, market share measures the preferences of consumers for a product over other comparable services and products (Jong, Nguyen, & Dijik, 2008). A study by Bloom and Kotler (1975) on strategies for big market share companies in India highlighted that a company should not just focus on maximizing market share but on attaining the optimal market share. They suggested that companies need to examine the relationship between firm performance and market share, estimating the risk associated with each level. This research was essential in establishing the moderating effect of market share between firm-specific determinants and the firm's performance. Contrastingly, a study by Ogbonna and Ogwa (2013) on the market orientation of firms and their financial performance in Nigeria showed no relationship. However, this study does not specify market share as a focus of market orientation. Hence, this study used market share to determine whether it moderates a firm's financial performance.

Ni, Zhao, and Li. (2017) conducted a study analysing the financial performance and market share of nine solar cell enterprises in China using regression analysis. They found that the market share was not significantly associated with the firms' performance. These researchers did not define the firm's performance parameters. Therefore, this current study will focus on the firm's financial performance as a performance parameter to determine whether the findings tally. In comparison, Fosu (2013), conducted a study in South Africa on product market performance using panel data of 257 firms and found a positive link between the performance of a firm and the market share. This study concentrated on a product market only. This study focused on an industry that is more service-based.

Onamusi et al. (2020) assessed the moderating effect of market share in the manufacturing industry in Nigeria. The study found that market share explained the innovation capability as a moderator using a moderated regression analysis. Thus, suggesting that managers need to invest in developing innovative capabilities to improve their market share. Similarly, Ogaga and Owino (2017) established the moderating influence of market share on corporate strategy and organizational performance. Using a descriptive cross-sectional survey, the researchers found that market share significantly modifies the impact of corporate strategy and performance. Both of these studies focused on different industries, leaving a gap that this current study explored to establish whether the results are the same in the insurance industry. Therefore, based on the empirical review, this study will test the null hypothesis that market share does not have a significant moderating effect on insurance companies' financial performance.

## 2.4. Summary of Research Gaps

Several studies have been conducted on the firm determinants and firm performance. The following section summarizes the research gaps identified in past studies.

**Table 1 Summary of research gaps**

| Author | Title | Methodology | Research Findings | Gaps in the Study |
|---|---|---|---|---|
| Mwangi & Mirigo (2013) | Financial Performance determinants when focusing on General Insurance Companies in Kenya. | Descriptive<br><br>Nominal data<br>Regression analysis | There is a positive relationship between the underwriting risks and the Kenyan insurance companies' financial performance; however, this influence is not statistically significant. | The study generalized financial performance, which has various elements. Hence, to clarify whether the findings apply to the macro-areas, This study will concentrate on the only Kenyan insurance companies financial performance and find out whether the same results will hold<br>The present study incorporates make share as a moderating variable |
| Angima & Mwangi (2017) | The Effects of Underwriting and Claims Management on Performance of Property and | Descriptive<br><br>Nominal data<br>Regression analysis | The researchers report that underwriting risk explained 4% of the firm's financial performance differences. | Besides the underwriting risk, the paper incorporates other firm-specific factors to |

| | | | | |
|---|---|---|---|---|
| | Casualty Insurance Companies in East Africa | | Further, the study established that underwriting risks on the performance of insurance firms was not statistically significant. | determine their influence on financial performance. |
| Moreno et al. (2018) | Economic Crisis and Determinants of Solvency in the Insurance Sector: New evidence from Spain | Descriptive<br>Nominal data<br>Regression analysis | The researchers found a positive correlation between solvency margins and profitability. | Different contextual setting; the present study focuses in a developing country.<br>The study incorporates other firm-specific determinants for insurance firm's performance.<br>The methodology entails inclusion of a moderating variable to make the findings solid. |
| Kaguri (2012) | Relationship between firm characteristics and financial performance of life insurance companies in Kenya | Nominal data<br>Regression analysis | The study established that premium growth was statistically significant in affecting a firm's financial | The study did not have a moderating variable and it has been a long period since the study was conducted. |

| | | | | |
|---|---|---|---|---|
| | | | performance. Hence, premium growth was reliable in making conclusions about insurance firms' current and future performance. | The present brings new insights and a new methodical approach to analysing the moderating effect of market share. |
| Ismael (2013) | Determinants of Financial Performance: The Case of General Takaful and Insurance Companies in Malaysia. | Descriptive<br>Nominal data<br>Partial Regression analysis | The study established that the size of insurance firms positively affected their financial performance, which means that larger firms have increased financial performance than the smaller ones. | This study was developed in an Asian emerging market (Malaysia); a similar study is reiterated in an African and developing country to compare the findings. |
| Abondo (2013) | The Effect of Size on the Financial Performance of Deposit-Taking Microfinance Institutions and Commercial Banks in Kenya | Descriptive<br>Nominal data<br>Partial Regression analysis | The study found that the firm's size influenced the financial performance of commercial banks in Kenya. | While the study focuses on the financial sector, the insurance firms are a greater support to the financial system hence the need to ascertain the industry's |

| | | | | |
|---|---|---|---|---|
| | | | | determinants for performance.<br>There is a 10-year gap since the study was conducted and this study adds new knowledge in the field. |
| Fosu (2013) | Capital Structure, product market competition and firm performance: Evidence from South Africa. | Descriptive<br>Nominal data<br>Multi- Regression analysis | A firm's financial performance and market share had a positive relationship. | The contextual setting of the study was in a developed market while the present one is in a developing country. The conceptual variables are modified and focused on the insurance sector alone to make industry-specific policies and decisions. |
| Ni, Zhao, and Li. (2017) | Market Structures and Performance: An empirical study of the Chinese Solar Cell Industry | Descriptive<br>Nominal data<br>Multi- Regression analysis | The study found that the market share was not significantly associated with a firm's performance. | Study conducted in a different industry. There was reliance on only theory while this study encompasses three theories to cement arguments. |

## 2.5. Conceptual framework of the Study

The conceptual framework illustrates the relationship between variables in this study. This framework hypothesizes how independent variables and the Kenyan insurance companies' financial performance are related with the mediation of insurance regulatory authority.

**Figure 1: Conceptual Framework**

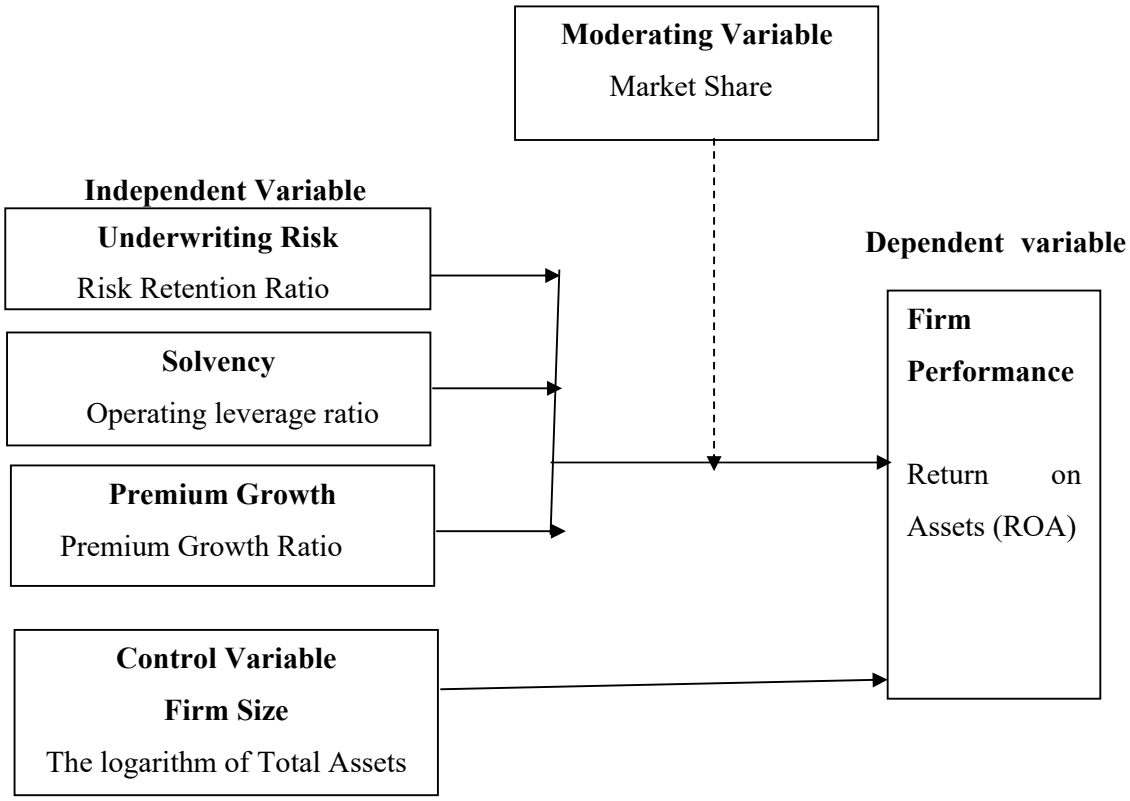



Figure 1: Conceptual Framework

**Table 2 Operationalization of Variable**

| Variable | Type of Variable | Indicator | Data Collection tool | Data Analysis |
|---|---|---|---|---|
| Underwriting Risk | Independent | Risk Retention Ratio | Secondary Sources | Descriptive analysis and inferential Statistics |
| Solvency | Independent | Operating Leverage Ratio | Secondary Sources | Descriptive analysis and inferential Statistics |
| Premium Growth | Independent | Premium Growth Ratio | Secondary Sources | Descriptive analysis and inferential Statistics |
| Market share | Moderating variable | Percentage of the market controlled by the company | Secondary sources | Descriptive analysis and inferential Statistics |
| Firm Size | Control variable | The logarithm of Total Assets | Secondary Sources | Descriptive analysis and inferential Statistics |
| Performance of Insurance Companies | Dependent | Return on Asset (ROA) | Secondary Sources | Descriptive analysis and inferential Statistics |

# CHAPTER THREE
# RESEARCH METHODOLOGY

## 3.1. Introduction

The present chapter includes a detailed description of the research methodology offering an in-depth look at how the problem was addressed. Additionally, the chapter includes a description of the research design, data collection strategies, tools, data analysis strategy, and the target population.

## 3.2. Research Philosophy

The study applied the positivism philosophy since the research intends to describe a natural phenomenon with objectivity (Jaccard & Becker, 2010). The positivism philosophy focuses on isolated and repeatable event. Positivism contends that there should be minimal changes to the study phenomenon. The minimal changes make it easier to study the changes in a single independent variable, ensuring ease in identifying regularities that affect the relationship between the dependent and independent variables. This type of philosophy was best suited for this study since the research relied primarily on factual data assessed from the insurance firms' financial information. Thus, all the conclusions made are objective.

## 3.3 Research Design

The research design used was a methodical collection of data and analysis to bring together the study's purpose, objectives, and relevance (Claire, Writsman, & Cook 1962). The research design offers a plan that enhances the accurate assessment of the independent and dependent variables. Thus, this study adopted the descriptive design. The descriptive correlational research approach was suitable for this study since it showed a close association of the variables and, whenever possible, developed valid conclusions (Waringa & Stangor, 2014). The research design ensured minimal researcher interference, hence reducing biases. The descriptive research design allowed the collecting information on what, when, who, and how much.

## 3.4 Population and Sampling

This section presents the study's target population and the sample size to be applied in conducting the study.

### 3.4.1 Target Population

The target population of this study was limited to the insurance companies registered in Kenya. There are 55 registered insurance companies in Kenya, as indicated in appendix 1. Hence, the 55 registered insurance companies in Kenya were the targeted population (AKI, 2020).

### 3.4.2 Sampling Design and Sample Size

The study applied a census to select all 55 insurance companies in Kenya. A census allowed every unit in a population to be studied. This study chose the census method since the population is small and information for all units is available in a short time (Kothari, 2004). Thus, the study will focus on all 55 insurance firms in Kenya.

## 3.5 Data Collection Instruments and Procedure

Secondary data, which entails utilizing data that has already been collected for a previous use. Secondary data saves time and efficiently achieves high quality and an extensive database that is not feasible in primary data. For secondary data, the study used panel data available from 2012 to 2020 in the insurance industry. This data was drawn from the Association of Kenya Insurers (AKI), Insurance Regulatory Authority (IRA) website, disclosures to the public disclosures, and annual reliable reports of specific companies. Ethical clearance was obtained from the Ethical Review Committee of Strathmore Business School before undertaking the research. The researcher ensured that they sought respondents' consent before starting the analysis.

## 3.6 Data analysis

Analysis of data is the process of extracting and organizing data into meaningful information. Thus, data from the secondary sources were checked for consistency and completeness to ensure data accuracy. SPSS Version 25 was use to generate descriptive and inferential statistics. The study used descriptive statistics, ANOVA, regression and correlation analysis for inferential statistics. Data were presented using tables and graphs. The five objectives were analysed using the following models:

### 3.6.1 Effect of firm-specific factors

The following multiple regression model was used to measure the impact of the various firm-specific factors on the firm financial performance

$Y=\alpha it+\beta_1 X_{1it}+\beta_2 X_{2it}+\beta_3 X_{3it}+\beta_4 Z_{it}+\varepsilon_{1it}$……Model 1

Where;

Y= performance of Insurance Companies

$\alpha$ = the intercept of the Model

i- Observations

t- time period

$\beta_1, \beta_2, \beta_3,$ = coefficient of independent variables; $\beta_4$- the coefficient for the control variable

$X_1$= Underwriting Risk

$X_2$ = Solvency

$X_3$ = Premium Growth

Z = Firm Size -control variable

ε = error term

Where;

Premium Growth = $\frac{\text{Gross Premium Written(Y1)- Gross Premium Written (Y0)}}{\text{Gross Premium Written (Y0)}} \times 100$

Risk Retention Ratio = Net Premium Written/Gross Premium Written

Operating Leverage = $\frac{\text{Net Premium Written}}{\text{Net Worth}}$

Return on Asset (ROA) = Operating Income/Total Assets

Notably;

Premium Growth is an indicator of business growth by the insurance company. The Risk Retention Ratio is an indicator of the insurance firm's total risks. The Operating Leverage Ratio Indicates the current and potential capacity to underwrite by an insurance company. The return on assets measures the company's performance from utilizing its assets (Hagel et al., 2013).

### 3.6.2 The moderating effect

The following interactive regression model measured the moderating effect of market share (M) on the relationship between Y (Dependent variable) and X (Independent Variable).

$Y= \alpha_{it}+\beta_1 X_{it}+\beta_2 M_{it}+\beta_3 XM_{it}+\varepsilon_{1it}$

The interaction between (XM) enables the effect of X on Y to be conditional on the moderator. And so, the effect of X on Y should change for different moderating variable values. 'M' is the moderating variable, market share, and X is a composite of the independent variables: underwriting risk, solvency, premium growth, and firm size.

### 3.6.3 Control Variables

This study used the firm size to minimize specification bias and isolate the effects of the insurance company's characteristics on financial performance.

The study applied partial correlation, which measures the direction and strength of a linear relationship between two continuous variables while controlling the effect of the control variables.

| | | |
|---|---|---|
| Research Question 5: Does market share have a controlling effect on the determinants of insurance companies' financial performance | If P-value ≤ α confirm the effect<br>Otherwise, state that it does not have a controlling effect.<br>α=0.05 | Rxy.z = $\frac{[rxy - (rxz)(ryz)]}{[\sqrt{1-rxz}.\sqrt{1-ryz}]}$<br>Rxy.z = Partial correlation controlling for variable z.<br>Y= Aggregate score for the four independent variables<br>X = Aggregate score of firm financial performance<br>Z = The control variable |

### 3.7 Diagnostic Tests

Various diagnostic tests were conducted by the researcher with the aim of evaluating the model's assumptions to enhance the model's predictive power once the regression model was fitted.

#### 3.7.1 Normality Test

The normality test is vital since it is a prerequisite of parametric testing. Hence, a normality test was used to establish a normal distribution for the dependent and independent variables. The researcher used a Q-Q plot for residuals to show normality for this study. It is a visual representation of the normal distribution of data. In an instance where data follows a trend line, data is considered to be normally distributed. The estimation test using Q-Q plots showed data to be normally distributed.

#### 3.7.2 Heteroscedasticity Test

The standard deviation of a variable monitored over corresponding values of an independent variable should be non-constant. This study used a scatter plot to establish homoscedasticity. This test plots the predicted variables against the predicted error terms. Heteroscedasticity is a problem when the results of the regressions return residuals with constant variance.

#### 3.7.3 Multicollinearity test

Multicollinearity occurs when there is high level of correlation between independent variables. There should be a low or non-existent intercorrelation between the independent variable utilized in a given study. Multicollinearity can often result in misleading or skewed results. The Variance Inflation Factor (VIF) for multicollinearity was used for the current study to evaluate

intercorrelation. The values of VIF run from 1 to infinity, where 1 indicates no correlation between variables. Values between 1 and 10 show a moderate correlation that does not need corrective measures, while above 10 shows critical multicollinearity levels, needing adjustments.

### 3.7.4 Autocorrelation test

Autocorrelation occurs when error terms are correlated with each other within a specific period. More so, it measures how the lagged version of the variable's value relates to the original version of it in a time series; analyzing autocorrelation assists in establishing repeated periodic patterns, which are crucial technical analysis tools. The Durbin-Watson test was used for the present study to test autocorrelation with values ranging from 0-4, with 2 indicating no autocorrelation and values less than 2 showing negative autocorrelation while values above 2 indicating positive autocorrelation. The presence of autocorrelation means that a model is mis-specified. This means that an important variable is missing from the model. Hence, fixing the presence of autocorrelation involves including the missing variable or modelling the autocorrelation.

### 3.7.5 Stationarity test

The stationarity test evaluates whether the statistical time series properties change. When data is non-stationary, the study findings will be biased due to the presence of variable variation. Hence, stationarity ensures that the impact observed from the variables is tested. Thus, data should be stationary to have a true analysis of the variables and accurate forecasting, to determine the true status of a relationship between variables. This means that it is free from seasonality and the effects of the trend. For this test, the Augmented Dickey Fuller (ADF) approach was used to examine whether the data was stationary.

## 3.8 Ethical Consideration

Ethical guidelines are essential in ensuring that the research is ethical. This study ensured that the confidentiality of the respondents and the information was maintained within the research. Further, the study ensured that the respondent's consent was sought before conducting the research. Also, the researcher obtained an ethical permit from Strathmore University and the National Commission of Science Technology and Innovation.

# CHAPTER FOUR
# PRESENTATION OF RESEARCH FINDINGS

## 4.0 Introduction

The present study evaluated the effects of measures such as firm size, market share, solvency and premium growth on firm financial returns of kenyan insurance companies. The outcomes of the data analysis are available in this chapter. IBM SPSS version 25 was used for the data analysis. Results captured in the chapter include the descriptive statistics, the results of the correlation analysis, diagnostic tests, and regression analysis.

## 4.1 Summary of Descriptive Results

The study captured data from fifty-five insurance firms in Kenya. Secondary data was collected from the Nairobi Securities Exchange (NSE), AKI, IRA websites, public disclosures, and annual reports between 2012 and 2020. The data was collected on the underwriting risk, solvency, premium growth firm size, firm financial performance, and market share.

**Table 4.1: Descriptive Statistics**

| | Mean | Median | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Underwriting Risk[ratio] | 0.05643 | 0.056448 | 0.602732 | 0.0081413 | 0.5987 |
| Solvency[ratio] | 0.026888 | 0.046786 | 0.48233 | 0.008097 | 0.2641 |
| Premium Growth [Ratio] | 0.08764 | 0 | 0.5188 | 0.001 | 0.5932 |
| Firm Size [log of assets] | 6.335313 | 6.21672 | 0.50742 | 5.3599 | 8.0145 |
| Firm Performance[ratio] | 0.15246 | 0.16183 | 0.94707 | 0.005594 | 0.3908 |
| Market Share [ Ratio] | 0.0403501 | 0.4353 | 0.300362 | 0.0053 | 0.11785 |

Source: Author (2022)

Table 4.1 illustrates the descriptive statistics of the data collected from the fifty-five-insurance firm operating in Kenya. The data captured in table 4.1 highlights the descriptive statistics.

The results captured in table 4.1 illustrate that, on average, the insurance firms had an underwriting risk of 5.64%. The median underwriting risk was 5.64%, with the minimum underwriting risk of 0.81%, and the company with the highest underwriting risk reported a value of 59.87%. On average, companies had a solvency ratio of 2.68%. The company with the lowest solvency had a ratio of 0.81%, and the one with the highest solvency ratio had a value of 26.4%. These results portray the risk resulting from underwiring activities undertaken by insurance companies; these may positively or negatively influence firm performance.

On average, the companies had a premium growth rate of 8.76%. The company with the lowest premium growth had a value of 0.10%, and the company with the highest premium growth had

a reported value of 59.32%. These figures indicate the growth in the premiums collected by the insurance companies over the study period. High premium growth is usually associated with higher firm performance – keeping other factors constant. On average, the companies had a firm size of 6.34. The company with the smallest firm size had a value of 5.36, and the company with the largest firm size had a reported value of 8.01. These values indicate the sizes of the insurance firms studied in this paper. Companies with higher firm size have resources, ability, and effective strategies for risk reduction and thus enhances financial performance. On average, the companies had a return on assets (ROA) of 15.24%. The company with the lowest ROA had a value of 0.56%, and the highest return on assets had a reported value of 39.08%. ROA is an indicator of firm performance, the higher the value, the superior the firm's performance is considered. On average, the companies had a market share of 4.03%. The firm with the lowest market share had a value of 0.53%, and the firm with the highest market share had a reported value of 11.78%. A huge market share implies more business opportunities for the company and thus, influences financial performance. A small market share represents inability to serve many clients, inadequate resources, and potential high risks in earning return on assets.

## 4.2 Diagnostic Tests

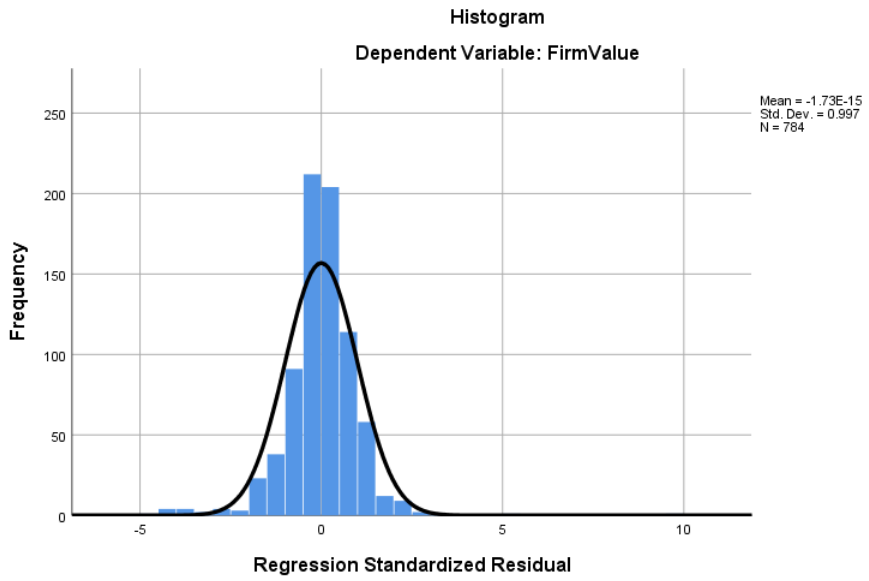
The study performed several diagnostic tests for linear regression assumptions to ascertain that the data collected would suit the proposed research. The test conducted includes the normality test, the test for autocorrelation, heteroskedasticity, and collinearity.

### 4.2.1 Normality tests

The normality test helps determine whether there was nominal distribution in the data or not. Normality test assessed whether the residuals had a normal distribution. The results of the normality tests captured in figure 4.2 below illustrate that the residuals are normally distributed due to the bell curve created from the histogram.

**Figure 4.2: Normality Test**

The normality test examines whether the residuals were normally distributed. The results indicate that the residuals had a bell curve showing a normal distribution.



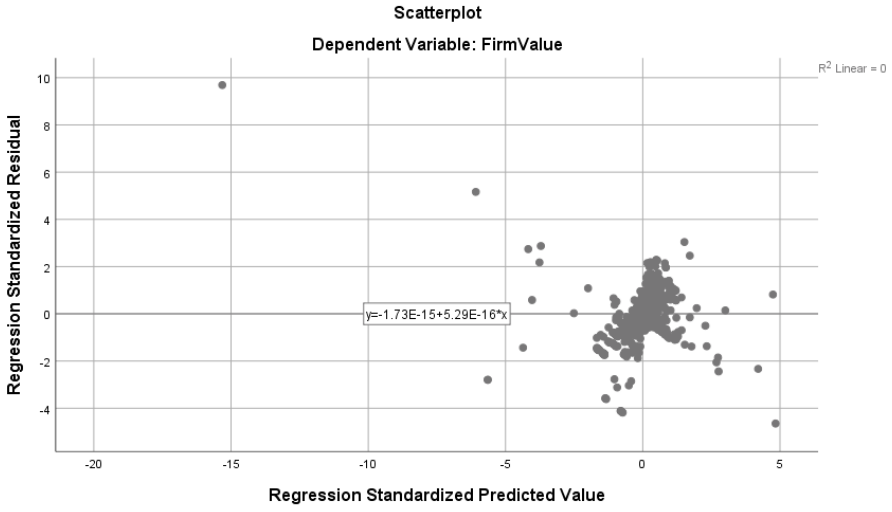

**Source: Author, 2022.**

### 4.2.2 Heteroscedasticity Test

Using a graphical approach where standardized residuals are plotted against the standardized predicted values, most variables are distributed along the trend line from either side. The heteroscedastic nature of the data means that there is unequal variance among the error terms and that the difference between the largest and smallest variables is enormous. In this, data portrays a homoscedastic characteristic.

The heteroscedasticity test helps to illustrate the distribution of the standardized residuals and standardized predicted values. According to the scatterplot, there is a homoscedastic characteristic showing that there is no bias.

**Figure 4.3: Scatterplot**




**Source: Author, 2022.**

### 4.2.3 Collinearity Test

The collinearity test is used to evaluate whether there is multicollinearity in a data set. In practice, multicollinearity causes considerable problems in analyzing data. For example, a dataset that exhibits multicollinearity reports significant interconnection between the values under investigation. As a result, a slight change in the data values results in substantial coefficient changes.

**Table 4.2: Collinearity Tests**

| **Coefficients** | | | |
|---|---|---|---|
| Model | | Collinearity Statistics | |
| | | Tolerance | VIF |
| 1 | (Constant) | | |
| | UWRisk | .164 | 6.113 |
| | Solvency | .162 | 6.171 |
| | PremiumGrowth | .977 | 1.024 |
| | FirmSize | .955 | 1.047 |
| 2 | (Constant) | | |
| | UWRisk | .164 | 6.113 |
| | Solvency | .162 | 6.171 |
| | PremiumGrowth | .977 | 1.024 |
| | FirmSize | .954 | 1.048 |
| | MarketShare | .999 | 1.001 |
| a. Dependent Variable: FirmPerformance | | | |

**Source: Author, 2022.**

Table 4.2 captures the results of the collinearity tests. The variance inflation factor was used to ascertain collinearity. From the VIF factors in Table 4.2, it can be noted that all variables have VIF factors below 10. The rule of thumb is that VIF>10 indicates a severe collinearity problem that warrants further examination of the variables under analysis. The data is fit for adopting regression analysis using the classical linear regression model (CLRM).

### 4.2.4 Autocorrelation Test

Autocorrelation is tested using the Durbin Watson (DW), where the residuals of the statistical model or regression analysis are examined. The Durbin Watson (DW) has a value between 0 and 4. A value of 2.0 indicates no autocorrelation. A value of 0 to 2 indicates positive autocorrelation, while 2 to 4 indicates negative autocorrelation.

**Table 4.3 Autocorrelation Test**

| Model | Durbin-Watson |
|---|---|
| 2 | 2.010[a] |
| a. Predictors: (Constant), FirmSize, UWRisk, PremiumGrowth, Solvency, MarketShare | |
| b. Dependent Variable: Firm Performance | |

**Source: Author, 2022.**

Table 4.3 indicates the results of the autocorrelation test. The Durbin-Watson test was used to ascertain whether error terms in the regression model were correlated. In this study, the value of 2.010 indicates no autocorrelation in the dataset.

### 4.3 Correlation Analysis

Correlation analysis is used to ascertain the relationship between two variables. The values range from -1.0 to 1.0 indicating varying levels of association between the variables as being negatively correlated, positively correlated, or not correlated.

**Table 4.4 : Results of correlation analysis**

| **Correlations** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | UWRisk | Solvency | PremiumGrowth | FirmSize | FirmPerformance | MarketShare |
| UWRisk | Pearson Correlation | 1 | .914** | .023 | .097** | .657** | .004 |
| | Sig. (1-tailed) | | .000 | .260 | .003 | .000 | .458 |
| Solvency | Pearson Correlation | .239** | 1 | .031 | .132** | .671** | .000 |
| | Sig. (1-tailed) | .000 | | .191 | .000 | .000 | .500 |
| PremiumGrowth | Pearson Correlation | .023 | .031 | 1 | .151** | .075* | -.008 |
| | Sig. (1-tailed) | .260 | .191 | | .000 | .018 | .407 |
| FirmSize | Pearson Correlation | .097** | .132** | .151** | 1 | .181** | -.025 |
| | Sig. (1-tailed) | .003 | .000 | .000 | | .000 | .235 |
| FirmPerformance | Pearson Correlation | .657** | .671** | .075* | .181** | 1 | .018 |
| | Sig. (1-tailed) | .000 | .000 | .018 | .000 | | .304 |
| MarketShare | Pearson Correlation | .004 | .000 | -.008 | -.025 | .018 | 1 |
| | Sig. (1-tailed) | .458 | .500 | .407 | .235 | .304 | |

**Source: Author, 2022.**

In this study, underwriting risk (UWRisk) had a weak, positive effect on solvency, as shown by coefficients of 0.239 and p-value of 0.00. Similarly, underwriting risk (UWRisk) has an insignificant positive effect on premium growth with a coefficient of 0.023 and a p-value of 0.260 (> 0.05). Firm size has a weak effect on underwriting (coefficients of 0.097 and a p-value of 0.003). Underwriting risk has a strong effect on firm financial performance with coefficient

of 0.657 and a p-value of 0.000. Market share has a statistically insignificant effect on underwriting risk with coefficients of 0.004 and a p-value of 0.458.

Solvency has a statistically insignificant effect on premium growth as shown by the coefficient of 0.031 and a p-value of 0.191. Solvency has statistically significant but weak effect on firm size (coefficient of 0.132 and p-value of 0.000). Solvency has a positive and significant influence on financial performance, demonstrated by a coefficient of 0.671 and a p-value of 0.000. Additionally, solvency has a positive but statistically insignificant effect on market share, shown by a coefficient of 0.000 and a significance value of 0.500.

Firm size had a weak positive and significant effect on premium growth, shown by a coefficient of 0.151 and a p-value of 0.000. Premium growth has a weak, positive and statistically significant effect on financial performance, demonstrated by a coefficient of 0.075 p-value of 0.018. Market share has a negative but statistically insignificant influence on premium growth indicated by a coefficient of -0.008 and a p-value of 0.407. Firm size has a weak, positive effect on financial performance shown by a coefficient of 0.181 and a p-value of 0.000. Market share has a weak negative but statistically insignificant effect on firm size indicated by a coefficient of -0.025 and a p-value of 0.235. Firm financial performance has a positive but statistically insignificant effect on market share, shown by a coefficient of 0.018 and a p-value of 0.304.

**Correlations**

| Control Variables | | | Underwriting Risk | Solvency | PremiumGrowth | FirmPerformance | FirmSize |
|---|---|---|---|---|---|---|---|
| -none-[a] | UnderwritingRisk | Correlation | 1.000 | .914 | .023 | .657 | .098 |
| | | Significance (2-tailed) | . | .000 | .526 | .000 | .006 |
| | | df | 0 | 780 | 780 | 780 | 780 |
| | Solvency | Correlation | .914 | 1.000 | .031 | .673 | .138 |
| | | Significance (2-tailed) | .000 | . | .389 | .000 | .000 |
| | | df | 780 | 0 | 780 | 780 | 780 |
| | PremiumGrowth | Correlation | .023 | .031 | 1.000 | .075 | .151 |
| | | Significance (2-tailed) | .526 | .389 | . | .035 | .000 |
| | | df | 780 | 780 | 0 | 780 | 780 |
| | FirmPerformance | Correlation | .657 | .673 | .075 | 1.000 | .198 |
| | | Significance (2-tailed) | .000 | .000 | .035 | . | .000 |
| | | df | 780 | 780 | 780 | 0 | 780 |
| | FirmSize | Correlation | .098 | .138 | .151 | .198 | 1.000 |
| | | Significance (2-tailed) | .006 | .000 | .000 | .000 | . |
| | | df | 780 | 780 | 780 | 780 | 0 |
| FirmSize | UnderwritingRisk | Correlation | 1.000 | .914 | .008 | .653 | |
| | | Significance (2-tailed) | . | .000 | .824 | .000 | |
| | | df | 0 | 779 | 779 | 779 | |
| | Solvency | Correlation | .914 | 1.000 | .010 | .665 | |
| | | Significance (2-tailed) | .000 | . | .775 | .000 | |
| | | df | 779 | 0 | 779 | 779 | |
| | PremiumGrowth | Correlation | .008 | .010 | 1.000 | .047 | |
| | | Significance (2-tailed) | .824 | .775 | . | .193 | |
| | | df | 779 | 779 | 0 | 779 | |
| | FirmPerformance | Correlation | .653 | .665 | .047 | 1.000 | |
| | | Significance (2-tailed) | .000 | .000 | .193 | . | |
| | | df | 779 | 779 | 779 | 0 | |

a. Cells contain zero-order (Pearson) correlations.

From the partial correlation table above, firm size has a significant effect on the relationship between underwriting risk and solvency and firm performance but an insignificant effect on the link between underwriting risk and solvency as shown by p-value of 0.00 and 0.824 respectively. When assessed against solvency and premium growth, firm size shows an insignificant effect as shown by a p-value of 0.775. On the contrary, firm size significantly influences the correlation between underwriting risk and solvency as shown by p-values of 0.000 which is less than 0.05.

## 4.4 Regression Analysis

Regression analysis considers the nature of relationships between independent and dependent variables. A fixed-effects regression model was used in this study because it allows for controlling for unobserved time invariant effects or confounders (Imai & Kim, 2019). The captured results in table 4.5 to table 4.8 below illustrate the regression analysis results.

**Table 4.5 Tests of Between-Subject Effects**

| Tests of Between-Subjects Effects | | | | | | |
|---|---|---|---|---|---|---|
| Dependent Variable: Firm Performance | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
| Corrected Model | 3.430[a] | 3 | 1.143 | 226.528 | .000 | .466 |
| Intercept | .074 | 1 | .074 | 14.597 | .000 | .018 |
| UnderwritingRisk | .079 | 1 | .079 | 15.615 | .000 | .020 |
| Solvency | .231 | 1 | .231 | 45.858 | .000 | .056 |
| PremiumGrowth | .023 | 1 | .023 | 4.552 | .033 | .006 |
| Error | 3.927 | 778 | .005 | | | |
| Total | 7.548 | 782 | | | | |
| Corrected Total | 7.357 | 781 | | | | |
| a. R Squared = .466 (Adjusted R Squared = .464) | | | | | | |

**Source: Author, 2022.**

From the regression coefficients shown in table 4.5, the p-values for all the independent variables (underwiring risk, solvency, and premium growth) are less than 0.05. This has an implication that there are significant differences between the independent variables and that all independent variables in this study were statistically significant predictors of firm performance.

**Table 4.6 Parameter Estimates**

| Parameter Estimates | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dependent Variable: Firm Performance | | | | | | | |
| | | | | | 95% Confidence Interval | | |
| Parameter | B | Std. Error | t | Sig. | Lower Bound | Upper Bound | Partial Eta Squared |
| Intercept | .010 | .003 | 3.821 | .000 | .005 | .015 | .018 |
| UnderwritingRisk | .041 | .010 | 3.952 | .000 | .021 | .061 | .020 |
| Solvency | .086 | .013 | 6.772 | .000 | .061 | .111 | .056 |
| PremiumGrowth | 1.033E-9 | 4.840E-10 | 2.134 | .033 | 8.257E-11 | 1.983E-9 | .006 |

Underwriting risk positively and significantly influences firm financial performance. This is shown by a regression coefficient of 0.041 and a p-value <0.05. This indicates that a unit change in underwriting risk is responsible for 0.041unit changes in firm financial performance. Solvency also has a positive and significant relationship with firm financial performance, with a regression coefficient of 0.086 and a p-value < 0.05. therefore, a one-unit growth in solvency contributed to 0.086-unit changes in the firm's financial performance. Premium growth and financial performance had a positive and statistically significant relationship. A unit change increase in premium growth contributed to 1.033E-9 unit changes in the firm's financial performance (a negligible effect).

**Table 4.7 Moderating Effects**

| Model Summary[c] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .691[a] | .478 | .474 | .07036049 | .478 | 142.033 | 5 | 776 | .000 | |
| 2 | .706[b] | .499 | .493 | .06912297 | .021 | 8.009 | 4 | 772 | .000 | 1.408 |
| a. Predictors: (Constant), MarketShare, PremiumGrowth, UnderwritingRisk, FirmSize, Solvency | | | | | | | | | | |
| b. Predictors: (Constant), MarketShare, PremiumGrowth, UnderwritingRisk, FirmSize, Solvency, IT3, IT2, IT1, IT4 | | | | | | | | | | |
| c. Dependent Variable: FirmPerformance | | | | | | | | | | |

**Source: Author, 2022.**

Table 4.7 shows that when market share is introduced as a moderating variable, the R-square value changes from 0.478 to 0.499, indicating a positive increase in firm performance when the moderating variable is presented in the model. The p-value remains unchanged at 0.00 which is < 0.05 thus implying a statistically significant effect of the moderating on the relationship between all the independent variables and firm performance. IT1 to IT4 are the interaction terms computed through multiple imputation in SPSS. It can be concluded that market share significantly moderates the link between underwriting risk, premium growth, solvency, firm size, and firm financial performance by 0.021 points or 2.1% as shown by the R-Square change in Model 2 of the ANOVA.

Analysis of variance (ANOVA) measures any significant differences from the mean among different variables. The results show that there are indeed significant differences in mean values among the data collected from different variables under analysis.

The model summary shows whether the regression model is fit to analyze the data in question and whether the findings are significant or not. The first model shows a statistically significant relationship between the dependent and independent variables, as shown by Sig. F Change of 0.000. The model indicates that size (based on partial correlation analysis), underwriting risk, premium growth, and solvency are responsible for a 47.8% change in firm financial returns among insurance firms in Kenya. Model 2 shows that interaction terms (resulting from the effects of moderation) is also statistically significant and predicts 49.9% change in firm performance, an additional 2.1% from the effects of market share as the moderating variable.

# CHAPTER FIVE

# DISCUSSION, CONCLUSION, AND RECOMMENDATION

## 5.1 Introduction

The present chapter presents a discussion of the results of the analysis. It seeks to explain how the analysis met the study's objectives by considering whether there is consistency between the findings of the current study and that published by researchers examining a similar subject. Moreover, the section provides a conclusion and recommendation.

## 5.2 Discussion

The findings indicate that solvency, underwriting risk, premium growth, and firm size statistically impacted the firm's financial performance. The results suggest that market share moderates the relationship between underwriting risk, solvency, premium growth, and firm size and firm performance. The results are consistent with some studies from the past. For example, the present study's results are consistent with those from Morara and Sibindi (2021). However, Morara and Sibindi (2021) focused their research on the analysis of the effects of firm size and financial performance measures. The findings were similar to those reported by Nduati (2018), where the researcher took a broader analysis of the factors that contributed to the financial performance of insurance firms in Kenya. The studies offer a good starting point in analyzing the implications of the present research.

### 5.3.1 Effects of Underwriting Risk on firm financial performance

The results of the current research showed that there was a statistically significant association between underwriting risk and firm performance. The results are consistent with some of the studies conducted in the past. However, there were limited studies that consider firm financial performance relationship to underwriting risk, as most researchers evaluated the connection between underwriting risk and the firm's profitability. For example, in a previous study evaluating the connection between underwriting and claims management, Angima and Mwangi (2018) show that the underwriting practice had a positive effect on the firm's market performance. Akpan et al. (2020) considered the effects of the firm's underwriting function on the company's profitability. They found a positive, statistically significant relationship between underwriting risk and firm profitability. Although Angima and Mwangi (2018) and Akpan et al. (2020) did not examine the impact of underwriting risk on the firm's financial performance, their results claim that underwriting risk had a positive effect on the firm's performance. Therefore, even though they do not affirm the current study's findings, they suggest that the underwriting management practice affects how the firm performs. One can infer that this means the underwriting strategy could affect the financial performance of the insurance firm.

### 5.3.2 Effects of solvency on firm financial performance

The present study found a positive, statistically significant association between the firm's performance and its solvency. The results of the present study are consistent with the results from Harmaini (2021). According to Harmaini (2021), there was a positive association between solvency and a firm's performance. However, the inherent difference between the present study and that by Harmaini (2021) was that they focus on the insurance and pharmaceutical industries. Silva et al. (2019) also showed a positive relationship between firm performance and solvency. The study by Silva and colleagues focused on assessing risk management practices.

Nevertheless, the results from their analysis support the findings of the present study. Very few researchers examined the relationship between solvency and firm performance independently. Most of the studies evaluated the implications of implementing risk management policies that helped ensure the solvency of an insurance firm and the consequences of this policy on the firm performance. For example, even though Nguyen and Vo (2020) examined the relationship between solvency and the firm's performance from a risk management point of view, their study found solvency had a positive effect the firm's financial performance. The results from past studies show that there is an accepted consensus that the solvency of a firm has a positive effect on the firm's performance.

### 5.3.3 Effects of premium growth on firm financial performance

The study shows a positive and statistically significant relationship between premium growth and firm performance. Most of the previous studies assessing the impact of premium growth on the firm have evaluated the relationship between premium growth and the general performance of the firm. For example, Tarsono et al. (2020) showed that net premium growth influenced performance measures positively. Septina (2022) had a similar finding showing that premium growth influenced the company's ability to invest, which influenced how profitable the company could become in the long term. Therefore, it was evident that premium growth positively influenced the firm's financial performance. The firm's valuation and financial performance are linked as a company with an excellent financial performance record are expected to be valued highly. As a result, one could infer from Septina (2022) and Tarsono et al. (2020) that premium growth would positively influence the firm's financial performance.

### 5.3.4 Effects of firm size on firm financial performance

Partial correlation analysis shows that firm size has a controlling effect on firm's financial performance. The results show that larger firms were likely to perform better in the market. The results are consistent with some influences from past studies. Kigen (2014) found that the

firm's size positively affected the company's profitability. According to Kigen (2014), the firm's size allows the company to utilize economies of scale to increase its profitability. Tharu and Shrestha (2019) evaluated the influence of firm size on the banks' profitability. The results found no significant influence between the size of the bank and its profitability. Ayuba et al. (2019) found a positive and statistically significant relationship between the firm's performance and its size. Kigen (2014) and Ayuba et al. (2019) agree that the firm's size was an important determinant of its performance due to its effects on the company's economies of scale. There was inconsistency in the findings from the studies examined, but Tharu and Shrestha (2019) argue that the size of the firm did not affect its performance of the firm. However, it is essential to note that Tharu and Shrestha (2019) considered this relationship in the banking sector, unlike Kigen (2014) and Ayuba et al. (2019), who examined it in the insurance sector.

### 5.3.5 The moderating effects of market share on firm financial performance

The market share moderates the association between the independent and dependent variables. The introduction of market share resulted in significant statistical relationship between the firm's financial performance and the other performance metrics, including underwriting risk, premium growth, solvency, and firm size. The results corroborate the findings from several past studies. For example, Ramadhan et al. (2019) showed that an increase in the company's market share achieved through the diversification of the company's offerings in the market had a positive relationship with the company's financial performance. Similar findings were found by Al-Slehat et al. (2020), who resolved that there was a positive relationship between the market share and the firm's performance. However, in these two studies, the researchers focused on analyzing the effect of market share directly on firm performance, unlike the present research, where the market share of the insurance firm is used as the moderating variable.

## 5.4 Conclusion

The study indicates positive influence of firm-specific indicators such as underwriting risk, premium growth, solvency, and firm size on the insurance company’s performance. However, when the market share was introduced as a moderating variable, the relationship between firm size and indicators such as underwriting risk, premium growth, and solvency and firm size became statistically significant. The regression analysis showed a positive and significant effect of premium growth on the firm’s financial returns. The study found a positive and statistically significant connection between the firm's size and market performance. The research also showed a statistically significant association between underwriting risk and firm financial performance and a positive, statistically significant relationship between the firm's financial performance and its solvency. Therefore, a firm intending to increase its financial

performance in the market should invest in ensuring positive changes in its solvency, premium growth, firm size, and underwriting risk.

## 5.5 Recommendation

The results demonstrated that striving to increase market share is essential. An insurance company should foster other factors such as solvency, premium growth, firm size, and underwriting risk to increase the firm's performance. First, improving the company's solvency can benefit the company's ability to grow in the market. For instance, improvements in the company's solvency show that it is in a healthy situation in the market. Moreover, it could help to justify decisions to raise capital to foster growth. A similar observation is apparent in the case of premium growth. Higher growth in premiums ensures an improvement in the firm's ability to attract new investments and acquire assets.

## 5.6 Limitations of Research

The present study considered the connection between financial performance, underwriting risk, premium growth, solvency, market share, and firm size in the insurance sector. Even though limiting the study to insurance firms helped to ensure efficiency, the study is only based on one industry. There is a need to expand the findings of the proposed research to other sectors. Furthermore, the data collected was retrieved from the Nairobi Stock Exchange (NSE), Association of Kenya Insurers (AKI), Insurance Regulatory Authority (IRA) websites, disclosures to the public disclosures, and annual reliable reports of specific companies. However, there were years when companies failed to report their financial data, resulting in many missing data. Additionally, the study was conducted during the COVID-19 pandemic, restricting the methodology that could be adopted. For instance, data that could be collected through face-to-face interactions were difficult to access due to the pandemic.

## 5.7 Areas of Further Research

There is an opportunity to consider the link between financial performance, underwriting risk, premium growth, solvency, and firm size in other sectors. Additionally, one could consider whether the results would be consistent when the data was focused on the fifty largest companies in the Nairobi Stock Exchange (NSE). For other researchers, the present study should provide a starting point for further analysis of insurance firms operating in Kenya. As the COVID-19 pandemic comes to an end, there is an opportunity to assess the impact that it has had on the Kenyan insurance companies' financial performance.

## REFERENCES


Abondo, O. (2013). The Effect of Size on the Financial Performance of Deposit Taking Microfinance Institutions and Commercial Banks in Kenya. *Unpublished Thesis,* University of Nairobi, Kenya.

Adams, M., & Buckle, M. (2000). The Determinants of Operational Performance in Bermuda Insurance Market. *Applied Financial Economics, 13*, 133-143

Ahmad, I., Alam, M. S., & Yameen, M. (2019). A study of economic value added (EVA) & market value added (MVA) of Hindustan Petroleum Corporation Limited. *Global Journal of Economics and Business*, *6*(1), 225-237.

Ahmad, A., Bosua, R., & Scheepers, R. (2014). Protecting organizational competitive advantage: A knowledge leakage perspective. *Computers & Security, 42*, 27-39.

Ahmed, N., Ahmed, Z., & Ahmed, I. (2010). Determinants of Capital Structure: A Case of Life Insurance Sector of Pakistan. *European Journal of Economics, Finance, and Administrative Sciences, 6* (24), 1450-1475

Akpan, S. S., Nnamseh, M. P., Etuk, S. G., Edema, A. J., & Ekanem, B. (2020). Managing the Underwriting Functions and Profitability Paradoxes of Nigerian Insurers: A Pooled Panel Model Study. *International Journal of Innovation, Creativity, and Change*, *14*(4), 1083-1096.

Al-Slehat, Z. A. F., Zaher, C., Fattah, A., & Box, P. O. (2020). Impact of financial leverage, size, and assets structure on firm value: Evidence from the industrial sector, Jordan. *International Business Research*, *13*(1), 109-120.

Altman, E. I. (1968). Financial ratios, discriminant analysis, and the prediction of corporate bankruptcy. *The journal of finance*, *23*(4), 589-609

Angima, C., & Mwangi, M. (2017). Effects of Underwriting and Claims Management on Performance of Property and Casualty Insurance Companies in East Africa. *European Scientific Journal, 13* (13)

Ansah-Adu, K., Andoh, C.,& Abor, J. (2012). Evaluating the Cost Efficiency of Insurance Companies in Ghana. *Journal of Risk Finance, 13* (1), 61-76

Arif, A.,& Showket, A. (2015). Relationship between Financial Risk and Financial Performance: An Insight of Indian Insurance Industry. *International Journal of Science and Research, 4* (11), 1424-1433

Asimakopoulos, I., Samitas, A. and Papadogonas, T. (2009). Firm-Specific and Economy-Wide Determinants of Firm Profitability: Greek Evidence Using Panel Data, *Managerial Finance, Vol. 35* (11), 930 – 939

Ayako, A., Musyoki, D., & Murungi, S. (2015). Post-merger and acquisitions performance of commercial banks listed at the Nairobi Securities Exchange. *Research Journal of Finance and Accounting*, *6*(10), 65-78.

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

Bagus, U. (2020). Africa's Insurance Market is set for Takeoff. *McKinsey*. https://www.mckinsey.com/featured-insights/middle-east-and-africa/africas-insurance-market-is-set-for-takeoff

Baltensperger, E., Buomberger, P., Luppa, A., Wicki, A.,& Keller, B. (2007). Regulation and Intervention in the Insurance Industry. *Fundamental Journal of International Studies, 7* (1)

Barney, J. B. (2020). Measuring firm performance in a way that is consistent with strategic management theory. *Academy of Management Discoveries*, *6*(1), 5-7.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 17*(1), 99-120.

Barney, J., Ketchen. D., & Wright, M. (2011). The future of resource-based theory: Revitalization or decline? *Journal of Management, 37*(5), 1299-1315.

Barth, M.M., & Eckles, D.L. (2009). An empirical investigation of the effect of growth on short-term changes in loss ratios. *Journal of Risk and Insurance*, *76*(4): 867-865.

Berry T., Liebenberg, A., Ruhland, J., & Sommer,W. (2012). Determinants of corporate diversification: evidence from the property-liability insurance industry. *Journal of Risk and Insurance, 79*(2), 381-413.

Batool, A.,& Sahi, A. (2020). Determinants of Financial Performance of Insurance Companies of USA and UK during Global Financial Crisis (2007-206). *International Journal of Accounting Research, 8* (3)

Billio, M., Getmansky, M., Lo, A., & Pelizzon, L. (2010). *Measuring systemic risk in the finance and insurance sectors*. MIT Sloan Research Paper No. 4774-10.

Blake, D., Cairns, A., Dowd, K., & MacMinn, R. (2006). Longevity bonds, financial engineering, valuation, and hedging. *The Journal of Risk and Insurance*, *73*(4), 647-672.

Bloom, P., & Kotler, P. (1975) Strategies for High Market-Share Firms. *Harvard Business Review, 53*, 63-72.

Bromiley, P., McShane, M.,& Nair, A. (2015). Enterprise Risk Management: Review, Critique, and Research Directions. *Long Range Planning Journal, 48* (4)

Burca, A., & Batrinca, G. (2014). The determinants of financial performance in the Romanian insurance market. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 4*(1), 299-309

Caporale, G., Cerrato, M.,& Zhang, X. (2017). Analyzing the Determinants of insolvency Risk for General Insurance Firms in the UK. *Journal of Banking and Finance, 84,*107-122

Cardeal, N., & Antonio, N. S. (2012). Valuable, rare, inimitable resources and organization (VRIO) resources or valuable, rare, inimitable resources (VRI) capabilities: What leads to competitive advantage? *Cardeal, N., António*, 10159-10170.

Chambers, R. J. (1964). Measurement and objectivity in accounting. *The Accounting Review*, *39*(2), 264.

Chen, R. and Wong, A. (2004). Determinants of Financial Health of Asian Insurance companies. *Journal of Risk and Insurance, 71* (3)

Cherchem, M. (2012). The Impact of the Imitation and Innovation Marketing in Services the Case of the Banks and Insurance. *Technology and Investment, 3*(2).

Crowther, D., Davies, M.,& Cooper, S. (1998). Evaluating Corporate Performance: a Critique of Economic Value Added. *Journal of Applied Accounting Research, 4* (2), 3-34

Cummins, J. D., & Nini, G. P. (2002). Optimal capital utilization by financial firms: Evidence from the property-liability insurance industry. *Journal of Financial Services Research, 15*(53)

Deloitte (2020). Insurance Outlook Report 2020/21. *Deloitte. https://www2.deloitte.com/content/dam/Deloitte/ke/Documents/financial-services/Insurance%20Outlook%20Report%20EA%202020.pdf*

Deloitte (2019). Insurance Outlook Report 2019/2020. *Deloitte.* https://www2.deloitte.com/content/dam/Deloitte/ke/Documents/financial-services/ea_insurance_outlook_report_2019.pdf

Derbali, A. (2014). Determinants of performance of insurance companies in Tunisia: The case of life insurance. *International Journal of Innovation and Applied Studies,6*(1), 90-96.

Deyganto, K. O., & Alemu, A. A. (2019). Factors affecting financial performance of insurance companies operating in Hawassa city administration, Ethiopia. *Universal Journal of Accounting and Finance*, *7*(1), 1-10.

Dogan, M. (2013). Does Firm Size affect the Firm Profitability? Evidence on Gibrat's law and the Persistence of Profits in the Long run. *Applied Economics, 38* (3), 267-278

Dörner, N., Gassmann, O., & Gebauer, H. (2011). Service innovation: why is it so difficult to accomplish? *Journal of Business Strategy, 32*(3), 37-46.

Edwards, J. (2018). Chapter 4: Managing Firm Resources- Resource-Based Theory. In *Mastering Strategic Management.* British Columbia: BCcampus Open Education.

Eneyew, L. (2013). Financial Risks and Profitability of Commercial Banks in Ethiopia. *Unpublished Thesis.* Addis Ababa University.

Fadun, S. (2013). Enterprise Risk Management Practice in Insurance Companies: An Empirical Study of Nigerian Insurance Industry. *Journal of Insurance Law & Practice, 3* (3).

Fatihudin, D., Jusni, & Mochklas, M. (2018). How to measure financial performance. *International Journal of Civil Engineering and Technology (IJCIET), 6*(9), 553–557.

Fosu, S. (2013). Capital Structure, product market competition and firm performance: Evidence from South Africa. *The Quarterly Review of Economics and Finance,53* (2), 140-151

Hagel, J. et al. (2013). Success or struggle: ROA as a true measure of business performance. Deloitte. *Shift Index Series, Report 3*. Deloitte University Press.

Gizawi, N. (2014). *The Dynamics Capabilities Theory: Assessment and Evaluation as a Contributing Theory for Supply Chain Management*. Paper presented at the 3rd IBA Bachelor Thesis Conference, July 23rd,2014, University of Twente.

Grant, J. L. (2003). *Foundations of economic value added* (Vol. 99). John Wiley & Sons.

Hakim, S., and Naime (2005). Performance and Credit risk in banking: A comparative study for Egypt and Lebanon. ERF, *Cairo Economic Research Forum*, Working Paper No. 0137,

Hardwick, P. (1997). Measuring cost inefficiency in the UK life insurance industry, *Applied Financial Economics, Administrative Science Quarterly*, 45(1), 81 – 112.

Harmaini, H. (2021). Factors Affecting Value of Companies (Case Study of The Indonesian Pharmaceutical Industry). *BASKARA: Journal of Business and Entrepreneurship*, *3*(2), 77-92.

Hendrani, A., & Septyanto, D. (2021). The Effect of Return on Asset, Debt to Equity Ratio and Company Size on Company Value in Manufacturing Companies in the Food and Beverage Sub-Sector on the IDX for 2014-2018. *KnE Social Sciences*, 681-693.

Huselid, M. A., Jackson, S. E., & Schuler, R. S. (1997). Technical and Strategic Human Resources Management Effectiveness as Determinants of Firm Performance, *Academy of Management Journal, 40*(1), 171-188.

Imai, K., & Kim, I. S. (2019). When should we use unit fixed effects regression models for causal inference with longitudinal data? *American Journal of Political Science*, *63*(2), 467-490.

Ismail, M. (2013). Determinants of Financial Performance: The Case of General Takaful and Insurance Companies in Malaysia. *International Review of Business Research Papers, 9* (6), 111-130

Ishtiaq, N., & Siddiqui, D. A. (2019). Factors Affecting Financial Performance of Life Insurance Sector in Pakistan. *International Journal of Social and Administrative Sciences*, *4*(2), 178-199.

Jankensgard, H. (2019). A Theory of Enterprise Risk Management. *Corporate Governance International Journal of Business in Society, 7* (23)

Jawad, Y.,& Ayyash, I. (2019). Determinants of the Solvency of Insurance Companies in Palestine. *International Journal of Financial Research, 10* (6)

Jihadi, M., Vilantika, E., Hashemi, S. M., Arifin, Z., Bachtiar, Y., & Sholichah, F. (2021). The effect of liquidity, leverage, and profitability on firm value: Empirical evidence from Indonesia. *The Journal of Asian Finance, Economics, and Business*, *8*(3), 423-431.

Jong, A., Nguyen, T.,& Dijik, M. (2008). Crafting and Executing Strategy: The Quest for Competitive Advantage, Concepts, and Cases. *Rotterdam School of Management.*

Kaguri, A. (2012). Relationship between firm characteristics and financial performance of life insurance companies in Kenya. *Unpublished Thesis*, University of Nairobi, Kenya

Kaya, E. (2015). The Effects of Firm-Specific Factors on the Profitability of Non-life Insurance Companies in Turkey. *International Journal of Financial Studies, 3*(4), 510-529

Kigen, W. K. (2014). *The effect of firm size on the profitability of insurance companies in Kenya* (Doctoral dissertation, University of Nairobi).

Kim, Y., Anderson, D., Amburgey, T.,& Hickman, J. (1995). The use of event history analysis to examine insurer insolvencies. *Journal of Risk Insurance*, 62, 94–110.

Kollie, G. (2017). Determinants of Performance of Insurance Companies. *Unpublished*

Kraaijenbrink, J., Spender, J.,& Groan, A. (2009). The Resource-based View: A Review and Assessment of Its Critiques. *Munich Personal RePEc Archive.* https://mpra.ub.uni-muenchen.de/21442/2/The_RBV-A_Review_of_Critiques_pre-pub_version.pdf

Kothari, C. (2004). *Research Methodology: Methods & Techniques*. New Age International (P) Ltd.

Lee, C (2014). The effects of firm-specific factors and macroeconomics on the profitability of property-liability insurance industry in Taiwan. *Asian Economic Financial Review, 4,* 681–691.

Malik, H.(2011) Determinants of insurance companies profitability: An analysis of insurance sector of Pakistan. *Academic Research International Journal, 1*, 315–321

Maja, P.,& Josipa, V. (2012). Influence of Firm Size on its Business Success. *Croatian Operational Research Review, 3,* 213-23

Mehari, D.;& Aemiro, T. (2013). Firm-specific factors that determine insurance companies' performance in Ethiopia. *European Scientific Journal, 9*, 245–255.

Mele, C., Pels, J.,& Polese, F. (2010). A Brief Review of Systems Theories and their Managerial Applications. *Service Science, 2* (1-2), 126-135

Mohseni, H., & Sadeghi Shahedani, M. (2019). The Effect of Corporate Governance and Financial Performance on the Solvency of Insurance Companies. *Iranian Journal of insurance research*, *34*(3), 39-61.

Morara, K., & Sibindi, A. B. (2021). Determinants of Financial Performance of Insurance Companies: Empirical Evidence Using Kenyan Data. *Journal of Risk and Financial Management*, *14*(12), 566.

Moreno, I., Parrado-Martinez, P.,& Trujillo-Ponce, A. (2018). Economic Crisis and Determinants of Solvency in the Insurance Sector: New evidence from Spain. *Accounting and Finance Journal, 60* (3).

Mukino, A. (2018). Effect of Financial Risks on the Financial Performance of Insurance Companies Listed at Nairobi Securities Exchange. *Unpublished Thesis.* University of Nairobi

Mumo, D. (2017*).* Factors Affecting Non-Financial Performance of Insurance Companies in Kenya: A Case of Aar Insurance Company in Nairobi. *Unpublished Doctoral dissertation,* United States International University-Africa.

Mutugi, P. (2012). The determinants of financial performance of life Assurance companies in Kenya. The University of Nairobi. *Unpublished* MBA Project.

Mwangi, M.,& Murigu, J. (2015). The determinants of Financial Performance in General Insurance Companies in Kenya. *European Scientific Journal, 11* (1), 1857-7881

Nakhaei, H., & Hamid, N. I. N. B. (2013, October). The relationship between economic value added, return on assets and return on equity with market value added in Tehran Stock

Exchange (TSE). In *Proceedings of global business and finance research conference* (Vol. 16, No. 11, pp. 1-9).

Nduati, L. W. (2018). *Effect of firm-specific factors on the financial performance of insurance companies in Kenya* (Doctoral dissertation, University of Nairobi).

Nguyen, D. K., & Vo, D. T. (2020). Enterprise risk management and solvency: The case of the listed EU insurers. *Journal of Business Research*, *113*, 360-369.

Ni, D., Li, Y., Zhao, X.,& Li, Y. (2017). Market Structures and Performance: An empirical study of the Chinese Solar Cell Industry. *Renewable and Sustainable Energy Reviews, 70,*78-82

Nzioka (2013). The Relationship between Firm Size and Financial Performance of Commercial Banks in Kenya. *Unpublished Thesis,* University of Nairobi, Kenya

Ogbonna, B.,&Ogwo, O. (2013). Market Orientation and Corporate Performance of Insurance Firms in Nigeria. *International Journal of Marketing Studies, 5* (3),104

Olawale, L., Bamidele, M.,& Lawal, F. (2017). The Effect of Firm Size on the Performance of Firms in Nigeria An estimation. *The IEB International Journal of Finance, 2,*2-21

Olalekan, L. I. (2018). Effect of liquidity risk, premium growth on the performance of quoted insurance firms in Nigeria: A panel data analysis. *American Finance & Banking Review*, *2*(1), 44-53.

Okoth, J. (2020). KSh 4 Billion Indemnity for Policyholders (2020, January 10). *The Kenyan Wall street,*https://kenyanwallstreet.com/ksh-4-billion-indemnity-for-policyholders

Oyetayo, Y. A., & Abass, O. A. (2020). Underwriting capacity and financial performance on non-life insurance companies in Nigeria. *Academic Journal of Economic Studies*, *6*(2), 73-80.

Ramadhan, B. M., Widiastuti, T., Wicaksono, I. A., & Al Mustofa, M. U. (2019). Diversification of Insurance Companies' Products as Supporting Infrastructure Development Institutions in Indonesia. *CSID Journal of Infrastructure Development*, *2*(2), 161-167.

Rohmawati, E., & Shenurti, E. (2020, March). The Influence of financial performance and corporate social responsibility on firm's value (for companies (food and beverage sector) listed in Bursa Efek Indonesia). In *Annual International Conference on Accounting Research (AICAR 2019)* (pp. 82-85). Atlantis Press.

Septina, F. (2022). Determinant of Financial Performance for General Insurance Companies in Indonesia. *Jurnal Ecodemica Jurnal Ekonomi Manajemen dan Bisnis*, *6*(1), 79-88.

Shiu, Y. (2005). The determinants of Solvency in the United Kingdom's Insurance Market. *Applied Economics Letters, 12* (6), 334-339

Silva, J. R., Silva, A. F. D., & Chan, B. L. (2019). Enterprise risk management and firm value: evidence from Brazil. *Emerging Markets Finance and Trade*, *55*(3), 687-703.

Stewart, G. (1994). EVA: Fact and Fantasy. *Journal of Applied Corporate Finance, 7* (2), 71-84

Stuenkel. W. (1999). Economic Value-Added for a Life Insurance Company. *Monograph.* https://www.soa.org/globalassets/assets/library/monographs/50th-anniversary/financial-reporting-section/1999/january/m-as99-1_xvi.pdf

Sufian, F. (2009). Determinants of bank Efficiency during Unstable Macroeconomic Environment: Empirical Evidence from Malaysia. *Journal of Research in International Business and Finance, 23*, 54-77

Swiss Re (2008). Profitability of Non-Life Insurance Industry, Egypt, *Insureegypt* http:www.insureegypt.com

Tarsono, O., Ardheta, P.,& Amriyani, R. (2019). The Influence of Net Premium Growth, Claim Ration, and Risk-Based Capital on the Financial Performance of Life Insurance Companies. *Advances in Economics Business and Management Research, 127,* 65-68

Tharu, N. K., & Shrestha, Y. M. (2019). The influence of bank size on profitability: an application of statistics. *International Journal of Financial, Accounting, and Management*, *1*(2), 81-89.

Thavikulwat, P. (2004). Determining the Value of a Firm, Developments in Business Simulation and Experiential Learning, *Emerald Group Publishing Limited, 31*(3), 195-204.

Tsvetkova, L., Yurieva, T., Orlaniuk-Malitskaia, L., & Plakhova, T. (2019). Financial intermediary and insurance companies: Assessing financial stability. *Montenegrin Journal of Economics, 15*(3), 189-204. doi: https://doi.org/10.14254/1800-5845/2019.15-3.14

Vos, F., & Schiele, H. (2014). *Evaluating Theories in Purchasing & SCM Literature.* Paper presented at 23rd Annual IPSERA Conference, South Africa.

Wahome, M. N., Memba, F., & Muturi, W. (2015). The effects of firm size and risk on Capital Structure decisions of Insurance Industry in Kenya. *International Journal of Scientific and Research Publications*, *5*(8), 1-12.

Wabita, F. M. (2013). Determinants of Financial Performance Of Insurance Companies In Kenya. The University of Nairobi. *Unpublished* Master Of Science In Finance project

Wahyuni, N., & Gani, A. A. (2022). Reviewing The Firm Value In Terms Of Profit, Debt, And Growth. *Jurnal Manajemen*, *26*(1), 121-139.

Wani, A. (2015). Relationship between financial Risk and Financial Performance: An Insight of the Indian Insurance Industry. *International Journal of Science and Research, 6*(14)

Waringa, J.,& Stangor, C. (2014). *Psychologists use Descriptive, Correlational, and Experimental Research Designs to Understand Behavior*. Open test book, Canada

**Appendix 1 List of Insurance Companies in Kenya as of December 31st, 2020**

| | | | |
|---|---|---|---|
| 1. | AAR Insurance Kenya Limited | PO Box 41766 - 00100, Nairobi | Not Listed |
| 2. | AIG Kenya Insurance Co Ltd | PO Box 49460 - 00100, Nairobi | Not Listed |
| 3. | Africa Merchant Assurance Co. Ltd | PO Box 61599 - 00100, Nairobi | Not Listed |
| 4. | Allianz Insurance Co of Kenya Ltd | PO Box 66257- 00800, Nairobi | Not Listed |
| 5. | APA Insurance Limited | PO Box 30065 - 00100, Nairobi | Not Listed |
| 6. | APA Life Assurance Limited | PO Box 30389 - 00100, Nairobi | Not Listed |
| 7. | Barclays Life Assurance K Ltd | PO Box 1140 - 00100, Nairobi | Not Listed |
| 8. | Britam General Ins. Co. (K) Ltd. | PO Box 40001 – 00100, Nairobi | **Listed** |
| 9. | British-American Insurance Co. Ltd. | PO Box 30375 – 00100, Nairobi | Not Listed |
| 10. | Cannon Assurance Ltd | PO Box 30216 - 00100, Nairobi | Not Listed |
| 11. | Capex Life Assurance Limited | PO Box 12043 - 00400, Nairobi | Not Listed |
| 12. | CIS General Insurance Limited | PO Box 59485 - 00100, Nairobi | Not Listed |
| 13. | CIC Life Assurance Ltd | PO Box 59485 - 00100, Nairobi | **Listed** |
| 14. | Continental Reinsurance Ltd | PO Box 76326 - 00508, Nairobi | Not Listed |
| 15. | Corporate Insurance Co. Ltd | PO Box 34172 – 00100, Nairobi | Not Listed |
| 16. | Directline Assurance Co Ltd | PO Box 40863 - 00100, Nairobi | Not Listed |
| 17. | Keny Reinsurance Company Ltd | PO Box 20196 - 00200, Nairobi | **Listed** |
| 18. | Fidelity Shield Insurance Co Ltd | PO Box 47435 - 00100, Nairobi | Not Listed |
| 19. | First Assurance Company Ltd | PO Box 30064 - 00100, Nairobi | Not Listed |
| 20. | GA Insurance Limited | PO Box 42166 - 00100, Nairobi | Not Listed |
| 21. | GA Life Assurance Ltd | PO Box 42166 - 00100, Nairobi | Not Listed |
| 22. | Gemini Insurance Company Ltd | PO Box 61316 - 00200, Nairobi | Not Listed |
| 23. | ICEA LION General Insurance Co Ltd | PO Box 30190 - 00100, Nairobi | Not Listed |
| 24. | ICEA LION Life Assurance Co Ltd | PO Box 46143 - 00100, Nairobi | Not Listed |
| 25. | Intra Africa Assurance Co Ltd | PO Box 43241 - 00100, Nairobi | Not Listed |
| 26. | Invesco Assurance Company Ltd | PO Box 52964 - 00200, Nairobi | Not Listed |
| 27. | Kenindia Assurance Co Ltd | PO Box 44372 - 00100, Nairobi | Not Listed |
| 28. | Kenya Orient Insurance Ltd | PO Box 34530 - 00100, Nairobi | Not Listed |
| 29. | Kenya Orient Life Assurance Ltd | PO Box 34540 - 00100, Nairobi | Not Listed |
| 30. | Kenya Reinsurance Corp Ltd | PO Box 30271 - 00100, Nairobi | Not Listed |
| 31. | Liberty Life Assurance Kenya Ltd | PO Box 30364 - 00100, Nairobi | **Listed** |

| | | | |
|---|---|---|---|
| 32. | Madison Insurance Company Ltd | PO Box 47382—00100, Nairobi | Not Listed |
| 33. | Mayfair Insurance Company Ltd | PO Box 45161 - 00100, Nairobi | Not Listed |
| 34. | Metropolitan Cannon Life Ass Ltd | PO Box 46783 - 00100, Nairobi | Not Listed |
| 35. | Occidental Insurance Co Ltd | PO Box 39459 - 00623, Nairobi | Not Listed |
| 36. | Old Mutual Life Assurance Co Ltd | PO Box 30059 - 00100, Nairobi | Not Listed |
| 37. | Pacis Insurance Company Ltd | PO Box 1870 - 00200, Nairobi | Not Listed |
| 38. | Pioneer Life Assurance Company Ltd | PO Box 20333 - 00200, Nairobi | Not Listed |
| 39 | Pioneer General Insurance Ltd | PO Box 20333 - 00200, Nairobi | Not Listed |
| 40. | Phoenix of EA Assurance Co Ltd | PO Box 30129 - 00100, Nairobi | Not Listed |
| 41. | Prudential Life Assurance K Ltd | PO Box 25093 - 00100, Nairobi | Not Listed |
| 42. | Saham Assurance Company K Ltd | PO Box 20680 - 00200, Nairobi | Not Listed |
| 43. | Sanlam General Insurance Ltd | PO Box 60656 -00200, Nairobi | **Listed** |
| 44. | Sanlam Life Assurance Ltd | PO Box 44041 – 00100, Nairobi | Not Listed |
| 45. | Tausi Assurance Company Ltd | PO Box 28889 - 00200, Nairobi | Not Listed |
| 46. | The Heritage Insurance Company Ltd | PO Box 30390 - 00100, Nairobi | Not Listed |
| 47. | Trident Insurance Company Ltd | PO Box 55651 - 00200, Nairobi | Not Listed |
| 48 | Resolution Insurance Company Ltd | PO Box 4469 - 00100, Nairobi | Not Listed |
| 49. | UAP Life Assurance Limited | PO Box 23842 - 00100, Nairobi | Not Listed |
| 50. | UAP Insurance Company Limited | PO Box 43013 - 00100, Nairobi | Not Listed |
| 51. | Takaful Insurance of Africa Limited | PO Box 1811 - 00100, Nairobi | Not Listed |
| 52. | The Jubilee Insurance Co. Ltd | PO Box 3037– 00100, Nairobi | **Listed** |
| 53. | The Monarch Insurance Co. Ltd. | PO Box 44003- 00100, Nairobi | Not Listed |
| 54. | The Kenyan Alliance Insurance Co Ltd | PO Box 30170- 00100, Nairobi | Not Listed |
| 55. | Xplico Insurance Limited | PO Box 38106- 00623, Nairobi | Not Listed |

Source: IRA (2021)

## Appendix 2: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **387230**

Date of Issue: **14/February/2022**

**RESEARCH LICENSE**

**This is to Certify that Mr.. Ephraim Njoroge Wainaina of Strathmore University, has been licensed to conduct research in Nairobi on the topic: DETERMINANTS OF VALUE AMONG KENYAN INSURANCE COMPANIES for the period ending : 14/February/2023.**

License No: **NACOSTI/P/22/15583**

**387230**

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

## Appendix 3: SU Ethical Approval Form

Strathmore UNIVERSITY

31st January 2022

Mr Wainaina Ephraim,
wainainaephraim@gmail.com

Dear Mr Wainaina,

**RE: Determinants of Value Among Kenyan Insurance Companies**

This is to inform you that SU-IERC has reviewed and **approved** your above **SU-master's** research proposal. Your application reference number is **SU-IERC1250/21.** The approval period is **31st January 2022 to 30th January 2023.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-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 SU-IERC within 48 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 48 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 SU-IERC.

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

Yours sincerely,

for: Prof Fred Were,
**Chairperson; SU-IERC**

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
31 Jan 2022
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