INFLUENCE OF HORIZONTAL ALLIANCE STRATEGY ON PERRFORMANCE OF INSURANCE FIRMS IN KENYA

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(International Business Management)

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

2018

Influence of Horizontal Alliance Strategy on Performance of Insurance Firms in Kenya

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A Thesis Submitted in Partial Fulfillment for the Degree of Doctor of Philosophy in International Business Management in the Jomo Kenyatta University of Agriculture and Technology

2018

DECLARATION

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

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DEDICATION

To my late loving parents Ramadhan Ali and Mariam Ramadhan. To my husband James Ngugi and our lovely sons Njoroge M. Ngugi and Mwaura M. Ngugi for their love, support and encouragement.

ACKNOWLEDGEMENT

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ACRONYMS AND ABBREVIATIONS

AKI   Association of Kenya Insurers

IBM   International Business Machines

IRA   Insurance Regulatory Authority

KBV   Knowledge-Based View

MIPs   Medical Insurance Providers

NHIF   National Hospital Insurance Fund

NIA   Nigerian Insurer Association

NSE   Nigeria Stock Exchange

NTBs   Non-Tariff Barriers

P/L   Property and Liability

R&D   Research and Development

RBV   Resource-Based View

SPSS   Statistical Package for the Social Sciences

TUFIC   Tunisian Federation of Insurance Firms

VIF   Variance Inflation Factor

DEFINITION OF KEY TERMS

Co-insurance: A co-sharing agreement between the insured and the insurer under an insurance policy which provides that the insured will pay a set percentage of the covered costs after the deductible has been paid (Kelly, 2004)

Diversification of Risks: Allocation of proportional risk to all parties to a contract, usually through a risk premium. Also called risk allocation (Busse, Dacorogna & Kratz, 2013)

Horizontal Alliance Strategy: Alliance between partners operating in the same business area. Horizontal alliance strategy is where two firms are in the same market and the alliance is aimed at improving a mediocre performance to a better market position, achieving economies of scale, improving competitiveness and possible opportunities for diversification (Rindfleisch, 2000).

Illiquid Assets: The state of a security or other asset that cannot easily be sold or exchanged for cash without a substantial loss in value. Illiquid assets may also be hard to sell quickly because of a lack of ready and willing investors or speculators to purchase the asset, Schwartz and Tebaldi (2006).

Insurance Underwriting Premium: The process of determining risk on the potential clients' income by the insurance company once it is earned, and the liability in that the insurer must provide coverage for claims being made against the policy. (Byeongyong et al., 2013).

Systemic Risk The risk of collapse of an entire financial system or entity, group or component of a system that can be contained therein without harming the entire system (Zigrand, 2014).

Underwriting capacity: this is the maximum amount of financial risk an insurer or a reinsurer is willing to assume in the event of a single loss or for a given period of time. With respect to the insurance industry, underwriting capacity may not necessarily be at the discretion of the insurance company but may be influenced or controlled by the regulations that apply to the insurance industry based on the capacity of the insurance company. (Frazier & Niehm, 2004).

ABSTRACT

The recurrent changes in the global economy, especially recession and general business environment dynamics, low market penetration of insurance products, especially in the African continent, has necessitated formation of horizontal alliance as a strategy to improve insurance firm's performance. This makes it necessary for an insurer to engage in an alliance, owing to the need of enjoying synergies associated with economies of scale, shared technological infrastructure, increased financial strength, access to new markets and availability of a diversified pool of human capital. The problem that necessitated the study was performance of insurance firms in Kenya. The general objective of the study was to determine the influence of horizontal alliance strategy on the performance of insurance firms in Kenya. This study was anchored on resource based view theory, knowledge based view theory, and the theory of firm growth in international business. The study adopted a cross-sectional descriptive survey research design with mixed approaches. The target population consisted of employees of the 44 insurance firms registered and licensed in Kenya. The sample size was drawn from the top management employees of the 44 registered insurance firms in Kenya. Simple random sampling technique was used to obtain a sample population of 176 respondents composed of top managers of the insurance firms. The study collected both primary and secondary data. Data was collected using closed- ended structured questionnaires. Data analysis was conducted using Statistical Package for Social Sciences (SPSS). Descriptive statistics which included frequencies, percentages, mean and standard deviation and inferential statistics which comprised of correlation, regression and ANOVA were conducted. Results showed there was a strong positive and significant linear relationship between liquidity, underwriting capacity, co-insurance of large risks, diversification of risks and information sharing of alliance partners and the performance of insurance in Kenya. Moreover, there was a negative and significant moderating influence between insurance firm performance and moderated liquidity and co insurance of large risks while diversification had a positive significant moderating influence on insurance firm performance. Further, the findings on the beta coefficient of all the resulting models indicated constants that were significantly different from 0. The ANOVA test for all the linear models showed that the F values were significant with p values of $0.000 < 0.05$. The study concluded that all the models were significant in the prediction of performance of insurance firms, therefore, all the null hypotheses were rejected and the alternative hypotheses accepted. The study recommended insurers seeking to be in a horizontal alliance strategy should determine the liquidity of their alliance partner, diversify their risks and through coinsurance adopt reinsurance programs to expand their underwriting capacity and gain technical risk management expertise. The study also recommended use of mobilization technology in information sharing among the alliance partners.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The increasing role of strategic alliances in the modern business landscape cannot be gainsaid. In the USA, Gleason, Mathur and Wiggins (2003) conducted a study that generated evidence on value creation in the financial services industries through the use of joint ventures and strategic alliances. Gleason et al. (2003) also observed that while an extensive body of literature had examined mergers, acquisitions, and consolidation activity in the insurance sector, little attention was paid to examine how these institutions used the cooperative activities of joint ventures and strategic alliances to accomplish their growth objectives. Gleason et al. (2003) analyzed the effects of the use of joint ventures and strategic alliances by a sample of firms in the insurance industry. Their results showed insurance firm's experienced significant abnormal returns of 0.66% on average when they announced their participation in a joint venture or strategic alliance. These abnormal returns were significantly positive across the four strategic motives of domestic, international, horizontal, and diversifying cooperative activities.

In Japan, Lincoln (2009) observed the use of horizontal alliance strategy among insurance firms created internal capital markets that substituted for well-developed external capital and corporate debt markets. Furthermore, the risk sharing and pooling activities of the horizontal groups took over some of the functions of a market for corporate control. Lincoln further observed that Japanese insurance firms had achieved an enviable reputation for "relational capability," infusing trust and reciprocity into their transactions with customers and suppliers.

Their costs were spread and the burden of product and process development, quality assurance, and customer service circumvented the adversarial posturing of results in a less competitive behavior. Both as individual organizations and in their horizontal alliance, Japanese insurance firms were becoming more strategic in choosing courses of action and partners, less on the basis of commitment, reciprocity, and obligation, and more on the basis of what was best for the success of the firm.

In Kenya, Karekezi (2014) observed that the last decade had witnessed unprecedented alliance building in the insurance industry in Kenya. For instance, Saham Group of Morocco invested in Mercantile Insurance Firm (Kenya) Limited, Union Insurance of Mauritius bought shares in Phoenix Assurance of East Africa (Kenya) Limited. This created market entry opportunities for these foreign firms which used the horizontal alliance as an avenue for market penetration in the Kenyan insurance market. Kenyan firms had also invested in foreign markets with the same objective. This phenomenon dramatically changed the insurance landscape in Kenya, by creating firms that enjoyed huge capital bases, coupled with options of exercising hybrid strategies. In addition to this, there was increased participation of foreign players in the insurance industry in Kenya, such as the entry of Liberty Life Insurance Company Limited.

These alliances, mainly characterized by cash-and-share swap deals, were driven by fast growing economies in Kenya and Africa in general. Another motivation for these alliances was the existence of improved insurance industry regulations with an expanding middle class population that was attracting new and foreign direct investment to the industry. The business sense was that these alliances would enable insurers to capitalize on the gap in the provision of non-statutory covers, especially those targeting non-group schemes and low income earners (The Business Daily, 2015).

The drive behind these alliances was increased competition for market share, and the strive to build insurance firms internal underwriting capacity, engage in cross-border expansion, expand distribution channels, grow existing business when organic growth was difficult and to diversify risks. However, these benefits, though tangible, were not

obvious, probably owing to what Oum, Park, Kim and Yu (2004) termed as a paucity of studies that sought to document the influence of horizontal alliance strategy in the literature context. Despite the popularity of other types of strategic alliances and the many studies that expound their benefits, popular opinion was ambivalent about the influence of horizontal alliance strategy on the performance of insurance firms in Kenya. It was not apparent that benefits of these alliances among insurance firms also accrued to the industry, therefore opening an opportunity for research that sought to address that ambivalence.

From that brief overview, it was abundantly evident that business agreements such as those relating to alliance formation were key business trends that had become increasingly important in the recent years. With the advent of such tendencies, the research focus moved away from viewing firms as autonomous entities striving for competitive advantage. Once that focus shifted firms opted to consider networks of relationships and their interest was now embedded profoundly to influence their conduct and performance. Horizontal alliance made it possible for firms to access and exploit resources owned by other parties and to link the parties' activities together (Ford, Gadde, Hakansson & Snehota, 2003). The increased importance of horizontal alliance strategy implied a need to also continually conduct research and document the influence on the performance of insurance firms. There was a gap in knowledge and the literature was inconclusive on the influence of such alliances on the performance of insurance firms. An endeavor that this study sought to contribute towards.

1.1.1 Horizontal Alliance Strategy

Bengtsson and Kock (2000) observed that markets were traditionally considered as competitive arenas for firms selling substitute or complementary products. However, competitors can simultaneously co-operate with each other in developing horizontal alliance strategy in which the allied firms contribute similar resources in production, processes or R&D (Walley, 2007), to share risks or to enjoy economies of scale, better access to raw materials, lower risks in R&D projects and general gains in productivity.

Horizontal alliance strategy may be found in industries ranging from consumer goods and pharmaceuticals to automobiles and air travel (Luo, Rindfleisch & Tse, 2007).

Horizontal alliance strategy may be used to reduce transaction costs, gain access to new technologies or resources, access to new geographic and product markets, achieve economies of scale and scope, reduce financial risks, integrate markets and technologies, increase the rate of new product or process development, and reduce the cost or risk of R&D (Luo et al., 2007). Horizontal alliance strategy where all partners cooperate in production and/or development but independently market their products are common in numerous industries. When products are pure substitutes, establishing horizontal co-operation was likely to restrict a firm's freedom to exploit alternative customer relationships. An additional problem was that in the long run, horizontal co-operation might result in the lowering of the entry barriers into its home market. Even if the partner presently did not operate in the same market, providing its scarce skills and information might make it more apt to do so in the future (Hamel, 1991). Such long-term threats may restrict the intensity of horizontal co-operation. Therefore, horizontal alliance as a market entry strategy could be risky for both parties. For instance, the host partner (the firm in the target market) may appropriate the technology of the entrant and become a stronger competitor in the marketplace (Dyer, Kale & Singh, 2001). Alternatively, the entrant firm might learn enough about the target market to go it alone at a future date. Nevertheless, Terpstra and Simonin (1993) suggested that these distribution alliances were often used to enter or expand within markets. In a study of North American, Japanese, and Western European firms, they found that over 28% of about 240 complementary partnerships (e.g., licensing, manufacturing arrangements, and piggybacking alliances) were considered to be distribution arrangements.

The horizontal alliance strategy seem to be an appropriate strategy for mitigating the risk for the incumbents in a market segment or product category. The flexibility intrinsic in horizontal alliance strategy facilitates the testing with new technologies and markets. Demand uncertainty and competitive uncertainty were some of the catalysts that

compelled competitors into horizontal alliance strategy with each other. Demand uncertainty arising from unpredictable purchasing patterns and competitive uncertainty as a result of interdependence in the initial phase of the product cycle, as in the case of a new car segment (Baltas & Saridakis, 2009).

Horizontal alliance strategy however, was critiqued from the marketing perspective. The argument was based on brand association that posed a risk that ought to be addressed. The risk arose not only from possible alliance failure; but some authors suggested that brand alliances should be approached strategically for fear of confounding clients and diluting brand equity (Luo et al., 2007). If the consumer evaluation of the alliance output was not favorable, it might result in a failed offering but also original brand associations may suffer. The remedy in these circumstances would be for potential partners to assess their individual brand equity before engaging in an alliance so as to put in place appropriate strategies for addressing it in a sustainable manner.

1.1.2 Performance of the Insurance Firms in Kenya

The insurance industry in Kenya is made up of 49 registered insurance firms, 3 registered re-insurance firms, 22 Medical Insurance Providers (MIPs), and 84 insurance brokers (Insurance Regulatory Authority [IRA], 2013). The most risk-exposed classes of insurance business in the year 2013 were identified as medical, motor private, motor commercial and burglary/theft. These classes' risk exposures were considered to range between high exposure and very high exposure and therefore required dedicated measures to mitigate their business growth effect.

Insurance claims and investment uncertainty had some effect on investment exposure. There was also some level of uncertainty at the industry level as regards to the direction that fraud and labour mobility would take as a consequence of the Kenyan general election held on 2013. Although there was an override from the optimism of a fairly stable insurance industry (IRA, 2013). Low consumer awareness, poor market penetration and poor demand for insurance products, industry competitiveness, political

uncertainty, insecurity, terrorism, money laundering and insurance perception were key challenges faced by the sector locally (IRA, 2013). Insurance penetration in Kenya is a paltry 3.1% of the Gross Domestic Product (GDP) (IRA, 2015) and this was blamed on various factors including poor saving culture, low levels of disposable income and negative perception towards insurance.

Going forward in 2013, capitalization levels, insurance claims, commissions, management costs, inflation and interest rates were factors considered likely to affect adversely the business performance. Also likely to affect business negatively, was the depreciation of the Kenyan currency against major currencies owing to the political developments in the first quarter of 2013, during the Kenyan general election year (IRA, 2013). It was also observed that profitability was expected to increase though at small rates and the insurance rates were likely to decrease but at small rates as well (IRA, 2013). In order to overcome these challenges, insurance firms opted to form horizontal alliances that helped in mitigating underwriting risks and increase their pool of funds required for prompt claims settlmement. Horizontal alliance strategy helped in reducing insurance premiums and made insurance products more accessible to the local market, mostly low income earners who cannot otherwise afford insurance(IRA, 2013).

The industry recorded growth in the gross written premium of 20.4% in 2013 in comparison with 2012. The gross written premium for non-life insurance was KShs. 86.64 billion in 2013 compared to KShs. 71.46 billion in 2012, while that for life insurance was KShs. 44.01 billion in 2013 compared to KShs. 37.08 billion in 2012. Non-Life insurance premium grew by 21.3% while life insurance premium and contributions from deposit administration and investment/unit linked contracts grew by 16.3%. Net claims in the insurance industry increased by 13.1% in 2013, compared to 2012, while total commissions and expenses for the industry increased by 15.6% over the same period (Association of Kenya Insurers [AKI], 2013).

Industry earnings from investments and other income increased by 17.1% in 2013 compared to 2012, while the combined industry profit before tax increased by 24.3% over the same period. The overall underwriting profit for non-life insurance was KShs. 3.42 billion in 2013, compared to KShs. 2.78 billion in 2012. Total assets held by the industry increased by 26.5% in 2013 compared to 2012, total liabilities increased by 24.7% over the same period and net assets increased by 31.6% in 2013 compared to 2012. The penetration of insurance in Kenya is at 3.44%, indicating a huge market potential for insurance products and services (AKI, 2012).

One of the key drivers of insurance industry growth and performance in 2012 was innovative marketing, good management, innovative product development, research and development, improved quality of customer service, and lower loss ratios resulting from proper claims management and automation (AKI, 2012). Other performance drivers included prudent underwriting of risks, stock market success, early fraud detection, credit control and a fairly balanced asset mix. Marketing strength comprised of reaching out to new market segments, expanded branch network, using alternative distribution channels and improved intermediary network relationships. Empowerment of intermediaries like brokers through trainings was also reported. Strategic partnerships with National Hospital Insurance Fund (NHIF) and banks for banc-assurance as agents improved growth (AKI, 2011). The IRA, in conjunction with key stakeholders, also embarked on an aggressive consumer education and awareness campaigns aimed at increasing public awareness on the need and benefits of insurance (IRA,2013).

Insurance firms engaged in horizontal alliance strategy locally were faced by political and legal risks such as expropriation, uncertainty over the legal validity of electronic contracts, changes in taxation, or legal liability in underwriting and claims management. An insurance firm that formed horizontal alliance strategy with another insurer in a foreign market found that the legal and political environment in those foreign markets were very different from those of their home country (Ghisi, Martinelli & Kristensen., 2006). Therefore, political and legal events, which were largely in the domain of the

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Government, were likely to play a key role in the performance of insurance firms, engaged in horizontal alliance strategy (Frazier & Niehm, 2004).

1.2 Statement of the Problem

Over the last five years horizontal alliance strategy has become a common feature of the insurance industry in Kenya. Horizontal alliance strategy is mainly involved in local firms and their foreign partners motivated by market entry as well as local insurance firms aiming to consolidate their market share, promote growth thereby improve their firm performance. Some of these mergers included Cannon Assurance (Kenya) Limited and Metropolitan Insurance of South Africa, where the foreign insurer was the investor. Local firms were also involved in acquisitions such as that of Britam insurance company buy out of Real Insurance Group of East Africa. In foreign markets, UAP Insurance (Kenya) Limited formed an alliance with Century Insurance Firm of Tanzania (Karekezi, 2014).

Factors that influenced insurance firms to engage in horizontal alliance strategy were fairly generic across the globe and they included search for better insurer's performance through improved liquidity, increased insurers underwriting capacity, co-insurance of large risks, ability to diversify risks, benefits of information sharing and the subsequent profitability realized from increased market share and underwriting ratios. Firm size also proved to exert a moderating influence on the relationship between the independent variables and insurance firm performance. In this regard, older firms demonstrated declining profitability (Loderer & Waelchli, 2010), while large size insurers were found to be more technically efficient compared to medium- and small-size insurers (Asghar, Kausar & Talat, 2010).

Influence of these factors on the performance of insurance firms were equally evident in the Kenyan insurance industry over the years, yet they had not been evidently noted as motivators for insurance firms to form horizontal relationships in the past. Non-Life insurance premium grew by 21.3% while life insurance premium and contributions from

deposit administration and investment/unit linked contracts grew by 16.3%. Net claims in the insurance industry increased by 13.1% in 2013, compared to 2012, while total commissions and expenses for the industry increased by 15.6% over the same period (Association of Kenya Insurers [AKI], 2013).It was not apparent that the growth in performance of the insurance firms was as a result of the horizontal alliance strategy, prompting the need for documented research.

Horizontal alliance strategy was accredited to earnings that were informal and invisible (social benefits) and relationships that were built mainly on information and social exchanges (Rindfleisch, 2000), which were difficult to quantify. Locally, there were many studies on strategic alliances, for instance, Koigi (2002), Musyoki (2003), Wachira (2003), Owuor (2003) and Kamanu (2005). However, these studies did not address the performance of insurance firms in Kenya. Similarly these studies had glaring differences from the current study in regard to their scope of study, research objectives, research problems, research methodology and the conclusions drawn therefrom. With the adoption of horizontal alliance strategy in the insurance industry focus moved away from viewing firms as autonomous entities striving for competitive advantage. Instead, they considered each other as networks of relationships where firms were embedded in the alliance to profoundly influence their performance through collaboration. These changes in the insurance distribution strategies through the horizontal alliance were aimed at improved firm performance with stricter regulation from the insurance regulator IRA (IRA, 2013).

Horizontal alliance as a market entry strategy of distribution made it possible for firms to access and exploit resources owned by other parties and to link these parties' activities together (Ford, Gadde, Hakansson & Snehota, 2003).The increased importance of horizontal alliance as an insurance distribution strategy prompted the need to conduct research and document the findings on the influence of horizontal alliance strategy on the performance of insurance firms in Kenya. Despite the popularity of other types of strategic alliances and other studies expounding their benefits, popular opinion was

ambivalent about the influence of horizontal alliance strategy on the performance of insurance firms in Kenya. This gap in knowledge opened up opportunities for research to address this ambivalence. The current study therefore sought to bridge the literature gap in the vital area of horizontal alliance as an insurance distribution strategy and its influence on the performance of insurance firms in Kenya.

The key questions that this study sought to answer were there fold;

  i.   What factors influences the insurer's choice of a horizontal alliance partner?
 ii.   What was the influence of horizontal alliance strategy on the performance of insurance firms in Kenya?
iii.   What was the role of the moderating variable on the performance of insurance firms in Kenya?

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to determine the influence of horizontal alliance strategy on the performance of insurance firms in Kenya.

From this general objective, six specific objectives were derived.

1.3.2 Specific Objectives

1. To determine the influence of the liquidity of alliance partners on performance of insurance firms in Kenya.
2. To examine the influence of the underwriting capacity of alliance partners on performance of insurance firms in Kenya.
3. To establish the influence of co-insurance of large risks among alliance partners on performance of insurance firms in Kenya.

4. To determine the influence of diversification of risks among the alliance partners on the performance of insurance firms in Kenya.
5. To determine the influence of information sharing of alliance partners on performance of insurance firms in Kenya.
6. To examine the moderating influence of firm size in a horizontal alliance strategy on the performance of insurance firms in Kenya.

1.4 Research Hypotheses

The study tested the following null hypotheses:

H_{01}: There is no significant influence on the liquidity of alliance partners on performance of insurance firms in Kenya.

H_{02}: There is no significant influence of underwriting capacity of alliance partners on performance of insurance firms in Kenya.

H_{03}: There is no significant influence of co-insurance of large risks of alliance partners on performance of insurance firms in Kenya.

H_{04}: There is no significant influence of diversification of risks among the alliance partners on performance of insurance firms in Kenya.

H_{05} There is no significant influence of information sharing among alliance partners on performance of insurance firms in Kenya.

H_{06}: There is no significant influence of the moderator of firm size on the performance of insurance firms in Kenya.

1.5 Significance of the Study

This study may assist the top management of insurance firms to better understand the issues surrounding horizontal alliance and their influence on the performance of insurance firms in Kenya. This study also brought out the influence of horizontal alliance as a distribution strategy to spread insurance risk among alliance partners.

The study findings might be significant to those insurers who may be interested in improving their performance through both collaborative and competitive strategies. This study may motivate insurers to conduct an internal self assessment before engaging in any horizontal alliance.

1.6 Justification

1.6.1 Policymakers

To the policy makers this study might be important because it was carried out from the Kenyan perspective a developing economy now rebased to a middle income economy It may assist government planners in understanding how to come up with policies that may help the insurance industry in forming successful horizontal alliance strategies. The study may assist top managers of insurance firms to evaluate their firm's performance and determine whether those alliances they are engaged in add value to them.

1.6.2 Investors/Management

Insurance is said to be the oil that lubricates the engine of any economy. The underlying aim of forming horizontal alliance is to pool resources through collaboration to secure sustainable competitive advantage and spread insurance risk across firms. Investors may be interested in whether such alliances deliver financial advantage. The findings of this study shall assist such investors in making choices of an alliance partner.

Reinsurers may benefit from the findings of this study by developing a better understanding of how horizontal alliance strategy influences insurers performance. They may also assist in developing a collaborative strategy among alliance partners. Insurers may also develop product offerings that circumvent any limitations thereby expanding insurance firm's choice of potential alliance partners. Additionally, the financial services industry, mainly commercial banks and insurers may acquire some insight and knowledge of how to engage in a profitable horizontal alliance strategy.

1.6.3 Business and Academic Researchers

Knowledge about horizontal alliance in the insurance industry was mostly derived from data obtained from developed economies that had many institutional similarities with Kenya. Thus, the study findings might arouse the interest of business and academic researchers to carry out more studies in the context of developing countries especially in Africa. Although many studies relating to horizontal alliance have been done outside Kenya, there lacked sufficient research about the insurance industry locally. This study may help in filling in this knowledge gap.

1.7 Scope of the Study

This study examined influence of horizontal alliance strategy on the performance of insurance firms in Kenya. Research study was conducted on forty four (44) insurance firms out of the forty nine (49) registered insurance firms in Kenya (IRA, 2013).These firms had their headquarters based in Nairobi, Kenya. The current study used both primary data and secondary data. Four respondents from each firm were purposively drawn from the top managerial team. They were deemed knowledgeable in the execution and recording performance of horizontal alliance strategy among insurance firms.

1.8 Limitations of the Study

The study faced limitations characterized by restrictions imposed by the survey method. The researcher developed questions general enough to minimally be appropriate for all respondents, possibly missing what was most appropriate to the majority of the respondents. The research study was limited to survey research excluding some interview approaches. The study dealt with the 'context', which may have arisen owing to different management styles adopted by the insurers in their different business pursuits. The questions in the questionnaire were similar and closed ended questions limiting the freedom of response. The study faced reluctance by management of some insurance firms who declined to offer indepth financial information owing it on issues to do with confidentiality, to mitigate this challenge we assured them that the information provided was solely for academic purposes and it will be handled with confidentiality. Micro- and macro-economic context did not remain constant throughout the period of the study although any fluctuations may not have been so significant to invalidate the research objectives/findings. At the insurer level, not all the aspects that may influence horizontal alliance on the performance of insurance firms were considered. To mitigate these shortcomings, the research methodology relied on standardization.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter summarized the views of other researchers who had carried out their research in the area of horizontal alliance strategy. The study specifically covered both the theoretical and empirical literature, as well as the conceptual framework. This was followed by a critique of past studies done in this area, followed by research gaps that were addressed as per the study objectives and a summary of the literature review.

2.2 Theoretical Framework

This section introduced theories that were reviewed. For the independent variable, horizontal alliance strategy formation, the study used the Resource-Based View (RBV), the Knowledge-Based View (KBV) and the Syncretic Paradigm theory. In explaining the role of firm size as the moderating variable, the study adopted the Institutional theory. In explaining the dependent variable firm performance, the review of the study variable was anchored on the theory of Shareholder Value Maximization. Finally the theory of firm growth in international business management was used to explain the influence of horizontal alliance strategy on the performance of insurance firms in Kenya.

2.2.1 The Resource-Based View

The RBV postulated the development of valuable, rare, inimitable and non-substitutable resources as the key to developing a sustainable competitive advantage and superior performance (Barney, 1991). Borrowing from the RBV then, a firms network relations through an alliance was otherwise seen as a source of relational rent and competitive advantage. Alliance strategy was seen as offering synergies between firm skills, competencies and capabilities, in terms of resources that can be leveraged to offer competitive advantage. This competitive advantage would be realized in terms of cost

leadership, differentiation or focus or a combination of these (Porter, 1980, Locket & Wild, 2014).

Duysters and Heimeriks (2007) observed that in order to successfully leverage on the synergies offered by its alliance partners, firms need information about the skills, competencies and capabilities of potential partners. The firm's historical level of collaborative experience is seen as key in enabling the firm to identify potential partners that will offer maximum value added relationships. Also, firms that have past experience in collaborative alliance were more resourceful in generating competitive advantage from these relationships. They were also more likely to engage on future collaborations. Experience in alliance and inter-firm collaborations then forms an important source of relational rent and provides opportunities for generating supernormal returns.

Armstrong and Shimizu (2007) further argued that alliances led to the development and refinement of dynamic capabilities that involved the ability to assimilate firm and market specific knowledge. In this way, an alliance allowed firms to focus on their internal core competencies, through in-house specialization, and at the same time, exploit emerging opportunities that may fall beyond their scope of expertise. Firms that are involved in an alliance should constantly evaluate their partner's resources, competencies and capabilities and how these may be used to develop mutual added value.

This theory was relevant to this study because it provided a framework that expounded the knowledge and understanding of how insurance firms developed a competitive advantage through engaging in horizontal alliance strategy with competitors. For the smaller fragile insurers, the RBV informed how firms may be able to access the resources and competencies needed to survive and succeed. The RBV informed the study on how firms in horizontal relationships gained access and control of markets, obtained competitive information and created first mover advantages in the identification of opportunities. It was also informed on how these firms exploited path dependencies developed by their alliance partners, to realize economies of scale and

receive assistance in workforce training and development. Finally, the RBV informed the analysis how alliance partners may increase their market power; achieve higher performance through shared goals, reduced costs, sharing of value-added exchange experience and positively influencing their results.

2.2.2 The Knowledge-Based View

The KBV looked at the firm s as a bundle of knowledge based resources, which could be strategically deployed to generate sustainable competitive advantage. From a KBV, point of view business alliance was seen as a means for firms to extend their pool of knowledge and form new entities. Partners in the alliance were seen as crucial to knowledge innovation, creation, acquisition and deployment of the same. The KBV held that mechanisms that enabled firms to exploit knowledge were the true sources of competitive advantage, as opposed to mere knowledge itself. These mechanisms referred to firm's absorptive capacity and combinative capability (Taco, 2012).

Ellis, Reus, Lamont and Ranft (2011) observed that in an alliance context, absorptive capacity was defined as a firm's ability to recognize the value of new knowledge, assimilate it, and apply it for commercial gain. Within this context, the capability to identify and assimilate knowledge among the alliance partners was a function of past experience of either firm and the complementary nature of both firm knowledge base. Past experience enhances a firm's ability to learn and assimilate new knowledge while complementary knowledge base has a lot of overlap, reducing the learning curve of the alliance partners. Combinative capability referred to the ability of the firm to combine and recombine knowledge that enhanced the alliance ability to exploit existing knowledge. Combinative capability required firms to voluntary create opportunities for sharing knowledge and motivate organizational members.

The KBV informed the study on how alliance partners in the local insurance sector exploits the human capital of their workforce for mutual benefits. An organizations workforce is one of the most valuable, rare, and inimitable resource that it may possess. The workforce should be able to continually internalize, contextualize and apply knowledge that exploits the firm's competencies and capabilities. This technically trained workforce will eventually lead to the creation of first mover advantage in commercializing innovations. The KBV was especially important to this study as it offered a framework for analyzing the role of the human capital of the firm as an intangible resource, in creating superior performance.

2.2.3 The Syncretic Paradigm

The study adopted the syncretic paradigm, (Billett, Garfinkel, & Jiang, 2011)) observed that in order to achieve above average performance, firms should pursue both competitive and collaborative strategies simultaneously. The syncretic paradigm espoused the benefits offered by both competition and collaboration. It also pointed out the risk that managers who are focused on competition may tend to ignore the benefits that were offered by collaboration. The syncretic paradigm is a middle ground between the competitive paradigm and the cooperative paradigm. The competitive paradigm held that firms attained competitive advantage in two key ways, either through achieving some advantageous position in the industry such as cost leadership, differentiation or focus, or through developing and using internal core competencies to develop superior products and services (Prahalad & Hammel, 1994).

The cooperative paradigm, on the other hand, held that firms existed in networks characterized by interdependent relationships motivated by a desire to gain collaborative advantages through strategic collaboration (Kanter, 1994). Therefore, the syncretic paradigm is a hybrid paradigm that highlighted the benefits of both approaches, which then saw firms deploy their core competencies to maximize value for both themselves and their competitors. This approach was applicable in the global airline industry.

The syncretic paradigm was very useful in this study owing to the fact that in reality, firms always seek innovative ways of operating, in their capacity as independent legal entities. Additionally, those insurance firms engaged in horizontal alliance strategy seek to optimize their profitability through maintaining and growing their individual market share. Firm performance was a consequence of both competitive and collaborative behavior.

2.2.4 The Institutional Theory

The moderating influence of firm performance was explained by the Institutional Theory. Scott (2008) noted that the institutional theory referred to the role of regulatory policy in exercising control over industries. It is executed through the formal and legal aspects of Government infrastructure. This theory examined the processes through which government infrastructure and authority forms an authoritative guideline for institutional and social behavior. In order to survive and earn legitimacy, insurance firms must conform to the rules and belief systems prevailing in the environment.

The role of Government as a regulator, exerts a lot of influence on the performance of firms in the insurance industry. This normative influence of government, extended through support and sanction of players in the industry, ensures fair-play, promotes constructive competition and ethical competitive behavior. Other influences were political, economic, social, technological, environmental and legal factors, as manipulated through the legislative mechanism, creates industry-centric factors conducive for business (Porter, 1990). This in turn creates competitive advantage for firms that choose to exploit opportunities in these market segments, either singly or through alliances.

2.2.5 The Shareholder Value Maximization Theory

As a tool for explaining firm performance, this study adopted the shareholder maximization theory. Lazonick and O'Sullivan (2010) observed that maximizing shareholder value entailed maximizing the stock market valuation of the firm's shares. The principle behind shareholder value maximization or value based management, stated that managers should first and foremost consider the interest of shareholders in any business decisions. In the context of a horizontal alliance, it implies that businesses that dilute shareholder value should be avoided. This may cause firms to split their profits amongst the combined shareholders.

Shareholder value is normally broken into components, also known as value drivers. These include revenue, operating margin, cash tax rate, incremental capital expenditure, investment in working capital, cost of capital and competitive advantage. In essence maximizing shareholder value will be a function of how well management optimizes on each of these variables to ensure an optimal overall performance. Shareholder value theory also recognizes the need to minimize information asymmetries between the principal (shareholders) and the agent (management) in order to curb opportunistic behavior on the part of management that may result in losses to the shareholders (McSweeney, 2008).

The theory was useful in this study since alliances are assumed to be formed with the aim of improving a firm's performance compared to periods where the firm was not engaged in any alliance. Ultimately, any horizontal alliance strategy should be beneficial to the shareholder and should add value to the firm's shares. The shareholder value maximization theory will provide a framework for contextualizing the benefits of an horizontal alliance strategy, and assessing whether the alliance satisfy the intended benefits of maximizing value for that firm. The shareholder value maximization theory aptly captures this concern through observation that managers were motivated to maximize value for shareholders and avoid any alliance that may dilute the market value of the firms stocks. Therefore an alliance only gains prominence where the firm's

management sees opportunities for growth, but does not in any way substitute the firms strategic intent at the point of inception.

2.2.6 Theory of Firm Growth in International Business

The theory of the firm growth in international business, was customized to suit horizontal alliance strategy, it was borrowed from the theory of firm growth as formulated by Penrose (1959). The theory of firm growth emphasized internal inducements to expand over external factors. More precisely, although Penrose recognized the role of external factors, such as demand, Penrose also argued that growth primarily stems from managers' perceptions of opportunities to put under-leveraged resources to new use. By focusing on the internal determinants of growth, Penrose highlighted the heterogeneity of resources among firms.

Its further, argued that such firm heterogeneity leads different firms to pursue different expansion opportunities, Penrose (1959) and (Garnse**y,** Stam, & Heffernan, 2006) suggested that undertaking different activities required different amounts and types of resources. Penrose (1959) viewed growth as resulting from firms' decisions to seize expansion opportunities on their own, even if, to do so, they had to purchase additional resources. These resources for growth and expansion could be obtained through corporate acquisitions. Penrose implicitly assumed that a firm either pursues an expansion opportunity on its own or forgoes that opportunity altogether.

While adopting this line of thought, this study mainly borrowed from an extension of model by Castañer, Garrette and Dussauge (2008)**.** Castañer et al. (2008) further argued that in today's post-modern world, firms are not necessarily faced with such drastic alternatives and that collaboration through horizontal alliance strategy firms were offered an alternative fallback option. This strategy allowed firms to pool their resources in order to jointly pursue expansion opportunities they were unable to undertake on their own. This was consistent with the horizontal alliance literature which recognized resource access as a major driver of any alliance arrangement.

Penrose (1959) observed that growth was an intrinsic process that is embedded in the firm's statement of intent. The firm is assumed to be in a state of permanent flux, driven by the need to maximize value. This then motivates the urge to grow through an alliance strategy, where the organic growth curve flattens. As such, these two theories put together, captured the motivation for firms to simultaneously compete and collaborate.

2.3 Conceptual Framework

According to Cooper and Schindler (2011), researchers hypothesize relationships of independence and dependence. Mugenda and Mugenda (2003) and Smith (2004), viewed a conceptual framework as a hypothesized model under study and the relationship between the dependent and independent variables. These variables are tried tested to see if these relationships actually work. Cooper and schindler (2011) defined dependent variable as a "variable that is measured, predicted, or otherwise monitored and is expected to be affected by manipulation of an independent variable". They also defined independent variable as a "variable that is manipulated by the researcher, and the manipulation causes an effect on the dependent variable". The conceptual framework for this study is presented in figure 2.1.

Independent Variables   **Moderating Variable**   **Dependent Variable**

```
┌─────────────────────────────┐
│ Liquidity                   │
│                             │
│  • Financial strength       │
│  • Insurer obligations      │
│  • Premium incomes          │
│  • Recapitalization         │
└─────────────────────────────┘

┌─────────────────────────────┐                ┌──────────────────────────┐
│ Underwriting capacity       │                │ Firm Size                │
│                             │                │                          │
│  • Internal risk management │                │  • Number of branches    │
│  • Size of technical        │                │  • Age of the firm       │
│    workforce                │                │                          │
│  • Insurance regulations    │                └──────────────────────────┘
│    (IRA)                    │
│  • Volume of transactions   │
└─────────────────────────────┘

┌─────────────────────────────┐                ┌──────────────────────────┐
│ Co-insurance                │                │ Firm performance         │
│                             │                │                          │
│  • Technical complexities   │                │  • Return on equity      │
│    of large scale projects  │                │  • Return on asset       │
│  • Re-insurance             │                │  • Underwriting ratio    │
│    arrangements             │                │                          │
│  • Co-operation between     │                └──────────────────────────┘
│    alliance partners        │
│  • Psychological parameters │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Risk Diversification:       │
│                             │
│  • Business line            │
│    diversification          │
│  • Geographic               │
│    diversification          │
│  • Frequency and severity   │
│  • Systemic risk            │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Information Sharing         │
│                             │
│  • Mobilization technology  │
│  • Insurance purchase       │
│    decision                 │
│  • Contractual opportunism  │
│  • Moral hazard/adverse     │
│    selection                │
└─────────────────────────────┘
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Figure 2.1: Conceptual Framework

2.4 Empirical Literature Review

This section reviewed empirical literature on the study variables namely liquidity, underwriting capacity, coinsurance of risks, diversification of risks, information sharing, firm size and performance of insurance firms. The selection of these variables was informed by their interdependence, norms and practice when an insurer is looking for an alliance partner in pursuit of same business interest. Borys and Jemison (1989) adjusted Thompson's (1967) observed that firms in the same industry or sector are more likely to agree and comply with norms and practices that will facilitate understanding, interaction and development of trust as well formation of stable alliances. This interdependence concept of an alliance is named as hybrids. Hybrids with 'pooled interdependence' are those where the partners draw resources from a common pool, whereas 'sequential interdependence' means that one partner hands resources over to the other. In 'reciprocally interdependent' hybrids, the partners exchange outputs and learn from each other.

2.4.1 Liquidity

Liquidity is a variable that has attributes of controlling industry-related and business cycle. It factors in the quick assets ratio or the ratio of cash to total current liabilities. Cash requirements may be conditioned by industry practices, but also by the overall economic climate, since in lean time's cash flow crisis can arise. Additionally, liquidity also helps capture firm-specific attributes, since the ability to manage working capital and acquire a greater quantity of cash balances relative to current liabilities reflects superior skills which are also likely to be reflected in a firm's ability to generate relatively greater profits. Horizontal alliance strategy may be postulated to enhance the liquidity of the respective alliance partners (Oum *et al.*, 2004).

Aduloju *et al.* (2008) conducted an empirical survey of the role of mergers and acquisitions in the recapitalization of the Nigerian insurance sector. The purpose of their study was to present findings that aimed at creating an understanding of the challenges

faced in the sector and the reaction of insurance underwriters toward the recapitalization in the Nigerian insurance sector. The study adopted stratified sampling strategy where staff of firms listed in the Nigeria Stock Exchange (NSE) was divided into top-, middle- and lower-management cadres. Within these strata, random sampling as applied to select samples of the insurance firm staff and semi-structured questionnaires and interviews were used to collect primary data. Secondary data was collected from firm records. A total of 54 responses were obtained and analyzed using means, standard deviations, while Chi-square was used to test hypothesis. The findings indicated that recapitalization, through alliance formation, had resulted in a robust insurance sector and that mergers and acquisitions were seen as the most viable options for insurance firms to remain as going concerns and for maximizing shareholder value. The study faced limitations from financial and non-financial resources as well as reluctance by the management in insurance firms to offer in-depth information owing to issues to do with confidentiality (Aduloju *et al.*, 2008).

In explaining these findings, Grantham (2007) argued that recurrent changes in the global economy, especially recession and general business environment dynamics, especially in the African continent, have necessitated alliance arrangements. Grantham further observed that, situation is worsened given the rising number of claims compared to declining gross premium incomes. Grantham further observed that there was erosion of the market share and low penetration of insurance products making alliances very important owing to the need for enjoying synergies associated with economies of scale, shared technological infrastructure, increased financial strength, access to new markets and availability of a diversified pool of human capital.

Byeongyong, Jin and Chia (2013) conducted a study aimed at measuring the level of US Property and Liability (P/L) insurer's liquidity creation and also to identify factors affecting P/L liquidity creation. Their methodology relied on secondary data obtained from accounting reports for the period dating from 1998 to 2007. In this study, liquid assets were defined as investments that matured within one year, such as cash, bonds

and stocks. Illiquid assets had maturities greater than one year, e.g. mortgage loans. The proportions of reserves to be paid within one year, such as taxes, fees and licenses, unearned premiums, reinsurance and dividends payable were classified as liquid liabilities. Funds held by insurer under reinsurance treaties, funds held or retained by insurer for account of others, provision for reinsurance, draft outstanding, and liability for amounts held under uninsured accident and health plans were categorized as illiquid liabilities.

Liquidity was based on the ease, cost, and time for meeting insurer's obligations in terms of claims payments and any other expenses. Liquidity creation could be seen as the transformation of liquid liabilities into illiquid assets and an insurer with a high level of liquidity creation was considered as more risky to policy holders or claimants owing to the risk of default in the event when claims contractually come due. This is due to the fact that an insurer with a high level of liquidity creation holds more illiquid assets and a large number of liquid liabilities. If such an insurer receives a higher than expected number of claims, they may have to liquidate their assets at higher costs, or face litigation from policyholders and investors alike (Byeongyong *et al*., 2013).

Byeongyong *et al*., (2013) findings indicated that overall, insurers tended to be net destroyers of liquidity, implying that they tended to hold less illiquid assets and an overall lower amount of liquid liabilities. It enabled these institutions to maintain an acceptable and manageable level of risk in their investment portfolios. With regard to firm size, the findings indicated that smaller insurers are more likely to engage in higher levels of liquidity creation, as compared to larger insurers.

In addition, insurers capital was found to be inversely related to the levels of liquidity creation, implying that insurers with lower level of capital, face more regulatory requirements and they are forced to meet liquidity demand more (Berger & Bouwman, 2009). In most cases, asset size had a statistically significant negative relationship with liquidity creation, but this relationship was insignificant with regard to large insurers. These findings tend to support the push by regulators for alliance of larger insurers by

assets base in case of a financial crisis it would have a less severe effect on the insurance industry.

2.4.2 Underwriting Capacity

Ng, Chong and Ismail (2013) conducted a study in the insurance industry in Malaysia, whose aim was to investigate how insurance firm size was related to underwriting risk taking. Ng *et al.* (2013) adopted the theoretical model proposed by Lu (2011), in which firm size, defined as the firm's total assets, has a relationship with risk taking. The sample of study was comprised of direct insurance firms and secondary data was collected from audited annual financial statements of the firms and those of other stakeholders such as Government records. Panel regression analysis was used to estimate the link between firm size and risk taking. The findings indicated that underwriting risk, as represented by the loss ratio, was found to be positively related to insurance firm size. This was found to be consistent with Lu (2011) and other findings in the literature to the extent that increased firm size (in terms of total assets), motivates increased risk taking by firms. It can therefore be inferred that increased underwriting capacity, occasioned by increased total assets, would lead to an undertaking to assume larger risks.

Other studies, in other sectors, have markedly similar results; Chernobai Jorion and Yu (2009) conducted a study on the determinants of operational losses in US financial institutions. Their findings revealed a positive effect between size, frequency and severity of operational losses. This was attributed to a high volume of transactions, which rendered the firms vulnerable to high operational risk. Shih Samadâ-Khan and Medapa (2000) however, pointed out that positive relationship between firm size and the level of operational losses was not as a consequence of firm size *per se*, but the fact that larger firms were better equipped to manage risk. These included presence of fully fledged risk management divisions being subjected to stringent regulatory requirements. Smaller firms rarely have this luxury, they are therefore faced with increased risk exposure.

Ng *et al.* (2013) also observed that increased underwriting capacity, occasioned by increased firm size, was not a guarantee of positive firm performance. Ng *et al.* further observed that to ensure requisite firm performance, it was important for proper internal risk management and market discipline enforcement by the regulatory authority. This approach would guard against the double jeopardy of moral hazard and adverse selection, ensuring optimal firm performance for the given level of risk. Insurance firms that are in a horizontal alliance arrangement can be inferred to increase their ability to underwrite larger risks and be subjected to proper risk management to enhance their financial performance.

Hemrit and Ben Arab (2012) conducted a study whose purpose was to investigate the determinants of frequency and severity of operational losses in the Tunisian insurance industry. A questionnaire was used to capture the frequency of operational losses (daily, weekly and so on) in the business line in 2009. An expert panel was also used to evaluate the average individual financial consequences in 2009 (the severity of operational losses). Secondary data was collected from annual reports published by the Tunisian Federation of Insurance Firms (TUFIC) and annual activity reports of Tunisian insurance firms (public, private and mutual) in 2009. Logistic regression analysis was applied to determine the causal relationship among the study variables.

Among their findings, Hemrit and Ben Arab (2012) observed certain aspects of increased underwriting capacity brought about by alliance that had an influence on firm performance. For instance, increased market share, had a statistically significant positive relationship with the level of operational losses. This implied that large firms were highly vulnerable to operational losses than small firms. Additionally, the study found a statistically significant negative effect between human resource workforce and the frequency of operational losses. This implied that insurers with larger number of employees experienced lower levels of operational losses. This was attributed to improved quality of risk management resulting in enhanced firm performance.

2.4.3 Co-insurance of Risks

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Kelly (2004) observed that large risks posed a formidable possibility of loss to both the insurer and the insured, and required a different approach from the traditional insurance arrangement scenario. An example would be the insurance of large scale projects such as infrastructure arrangements which require large capital outlays, involve multiple stakeholders and subsequently, requires huge insurance covers. In insuring large risks, the traditional approach of providing insurance covers may result in duplication whereby different stakeholders take out and maintain policies that overlap in the risks they cover. Thus, in order to protect themselves and their clients, insurers engage in ceding activities resulting in the use of co-insurance, known also as project-, controlled-, consolidated-, wrap-up- or portfolio-insurance (El Adaway & Kandil, 2010).

Ndekugri, Daeche and Zhou (2013) conducted a study entitled the project insurance option in infrastructure procurement. The study employed an exploratory survey research design, with the main research tool being a postal questionnaire. The methodology applied non-probability sampling techniques, these mainly being a combination of accidental, purposive and snowball sampling, while the analysis focused on non-parametric techniques. Among the key respondents were prime/main contractors/sub-contractors/designers; project owners; insurers; and solicitors/project managers.

A special form of co-insurance is reinsurance, which involves the use of a reinsurer, either a specialist reinsurance firm, which only undertakes reinsurance business, or another insurance firm (Venezian, Viswanathan & Jucá, 2005). Reinsurance is used for expanding underwriting risk and capacity, income smoothing, risk transfer and providing management expertise, among other functions. Byeongyong *et al.,* (2013) findings on reinsurance indicated that on average, small insurers relied more on reinsurance and that reinsurance utilization had a statistically significant positive relationship to liquidity creation 95% percent of the time. From this, it could be inferred that reinsurance promotes increased risk taking among firms.

Lydeka and Adomavičius (2007) explored how cooperation between competing firms in Lithuania could be (Confirm APA tense) successfully executed. Their study focused on the international cargo transports sector, but it was recommended as applicable to other industries as the factors under investigation were mainly psychological and therefore, universal parameters. Their findings indicated that key psychological factors necessary to ensure success included trustworthiness/dependability, alignment of goals and interests, active participation in the projects, careful selection of members for cooperation, detailed definition of cooperation ahead of time, and existence of mechanisms to ensure compliance to previously made commitments.

Their findings further indicated that most cooperative projects in the past experienced problems due to failure to follow through with commitments, inability to find compromises, lack of initiative, and lack of coordination with alliance members. They provided recommendations on how to overcome roadblocks and difficulties to cooperate. Other recommendations were, procedures of selecting members of cooperation, active leadership of the projects, looking at cooperation from a business perspective and providing detailed definition of cooperation ahead of time and ensuring compliance. Subsequently, psychological parameters were very useful in instances of horizontal alliance strategy adoption the insurance industry, such as in trust and dependability of the alliance partner. These practices were recommended as pragmatic and best approaches that any insurer may use as a prelude to horizontal alliance strategy arrangement (Lydeka & Adomavičius, 2007).

Reinsurance, on the other hand, has been defined as insurance for insurers, it allows insurers to hedge excess risk to mitigate the possibility of loss. This process entails an insurer paying a premium to a re-insurer, in return for transferring a given risk, in order to be able to efficiently balance and manage its portfolio. Reinsurance increases underwriting capacity, enhances co-insurance and aids in the diversification of risks. This increases insurer's competitive advantage by exploiting the reinsurance option to simultaneously maximize market share and spread portfolio risk. In the light of

increased risk faced by insurance firms, especially in the emerging markets where they have little prior expertise, reinsurance has gained prominence as a critical part of portfolio risk management (Dahena & Dionne, 2010).

2.4.4 Diversification of Risks

Busse, Dacorogna and Kratz (2013) observed that diversification of risks forms the pillar of successful insurance and investment strategies and it is therefore important to understand its role in firm performance. The key objective of risk diversification is to create a portfolio of policies whose overall premium income shows minimum variability over time. Systemic risk, which affects all policies simultaneously, poses a big threat of destabilizing portfolio premium income. Thus, insurers may form horizontal alliance strategy with the intention of not only minimizing risk, but diversifying systemic risk. Diversification is a way of reducing the risk by retaining many different risks, with various probabilities of occurrence and a low probability of happening simultaneously.

Ai, Bajtelsmit and Wangz (2014) conducted a study on Enterprise Risk Management (ERM) and diversification effects for property and casualty insurance firms in the US. The sample consisted of all U.S. Property and Casualty (P&C) insurance firms in the SNL financial database for the period from 2006 to 2012, the period for which Standard and Poor's (S&P) ERM quality ratings are available. The methodology relied on secondary data for stock prices and financial accounting records. Their findings indicated that ERM had a strong positive effect on firm performance as measured by Return on Assets (ROA). On the other hand, business line diversification had a significant positive value effect on ROA and geographic diversification was not a significant factor. This was a major departure from previous studies that have found a positive association between geographic diversification and firm performance.

In Hemrit and Ben Arab (2012) study, whose purpose was to investigate the determinants of frequency and severity of operational losses in the Tunisian insurance industry, findings indicate that the frequency of operational losses negatively related to

the variety of insurance activities or diversification of the product line. The significant negative relationship between operational risk and variety of insurance activities indicated that a wide variety of insurance activities is associated with a low frequency of losses. The frequency of operational losses was also positively related to geographic expansion, implying that an extended network of agency facilitates the occurrence of operational losses. Conversely, the results represented a positive influence of the rate of geographic diversification on the probability of high severity losses. This relationship between geographic diversification and operational risk was attributed to poor or scattered internal controls over the geographic area.

In Byeongyong, Jin and Chia (2013) study on liquidity creation or de-creation in the US P/L industry, firm diversification was found to be negatively related to liquidity creation or transformation of liquid liabilities into illiquid assets. Diversification was a control variable which was measured along the number of lines of business an insurer underwrote and the level of geographic spread. The findings indicated that regardless of lines of business or regional spread, more diversified insurers tended to create more liquidity. For large insurers, line of business diversification had a statistically significant positive relationship with liquidity creation, indicating a tendency to create less liquidity.

More diversified insurers transformed more of their liabilities into assets with appreciable returns, while large diversified insurers has a tendency to invest a lesser proportion of their liabilities into income generating assets. Therefore, firm size had a moderating influence on liquidity creation for a given level of product and geographic diversification. Low levels of line diversification (high specialization), implied greater expertise, and a positive relationship with premiums, but carried the risk of lower scale economies and reduced opportunity for cross-selling and reduced premium income (Byeongyong *et al.*, 2013).

Feng and Hayes (2014) conducted a research on the issue of diversifying systemic risk in agriculture, targeting the US crop industry. Their study was motivated by the fact that adverse weather conditions do result in huge crop losses at a given time making crop

insurance an expensive affair for private insurance markets owing to the high portfolio risk. The objective of their study was to investigate the effectiveness of diversifying portfolio risk by creating a pool of risk across multiple crops and countries. Their methodology used a Copula-based Approach. Their findings revealed that crop yield risks were significantly reduced by combining crop insurance policies across the crops and countries. Additionally, systemic risk was reduced by combining crop insurance policies under one pool. The study demonstrated that when dealing with instances of potential huge losses in a given portfolio, the use of diversification as a mitigating strategy was recommended for risk reduction.

2.4.5 Information Sharing

Chua and Lim (2000) conducted a demand audit of the insurance market in Singapore in which they investigated demand-side issues or causal factors that affected uptake of insurance products by retail consumers. The study used a questionnaire as a tool for conducting interviews on the targeted respondents. Multivariate and regression analysis were used to test for any significant relationships between factors affecting insurance purchase decision and uptake of different insurance products. The study was motivated by empirical findings that pointed out a low penetration of insurance products and sought information from customers as to why this was so. The information related to demographic characteristics of the respondents, reasons for and against purchase of insurance policies and critical purchasing factors.

This information was designed to assist the insurance firms in developing suitable policies to meet the industry demands. Managerial implications from their findings indicated that insurers need to understand their customers and modify their strategies to create the right products, to sell to the right market segments, at the right prices, in the right ways. Crucial to achieving this goal was information sharing among the industry practitioners, since some products, such as those addressing large risks, required concerted industry wide efforts to address. The study addressed this through providing insights to insurance purchase behavior through the demand audit (Chua & Lim, 2000).

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Luarn, Lin and Lo (2003) conducted an exploratory study of advancing mobilization in Taiwan's life insurance industry. Mobilization, in this study, was defined as the use of wireless network systems, as tools that permits employees to work from remote locations, away from the firm premises, while still accessing confidential firm data and records. The actual study was a case study of Nan Shan Life Insurance Corporation, which used in-depth interviews targeting 29 corporate managers and experts to understand the current state of mobilization in the life insurance industry. Among the key findings was that mobilization technology offered opportunities for insurance business not to be restricted to the traditional domain of insurance.

Mobilization technology increased access to real-time information and provided opportunities for cross-selling insurance products both within any given firm and also among firms that had prior co-petition arrangements, such as ceding arrangements. This also necessitated the changing role of employees from mere insurance sales agents to comprehensive investment, insurance and financial advisors. Insurance staff had more opportunity to interact with the customers and minimize time spent in to and from movement between the field and the office. Additionally, mobilization provided increased access to re-insurers through a ready channel of communication. Overall, mobilization improved linkages between the insurer and other insurance firms as well as firms in other industries, such as suppliers (Luarn, Lin & Lo, 2003).

Yusuf (2010) studied the role of brokers in the control of post-contractual opportunism in the Nigerian insurance market. Contractual opportunism arises owing to information asymmetries between the insurer and insured, a situation that may lead to moral hazard and adverse selection. Policy-holders are able to mask their true risk position when applying for insurance covers or making claims (Loughran, 2005). The study collected both primary and secondary data, with semi-structured interviews of insurance brokers and analysis of insurance records being done.

The findings from Yusuf (2010) indicated that information sharing, through the use of brokers in the process from underwriting of risks to claim sorting, mitigates the insurers'

exposure to moral hazard and adverse selection. Hence, information sharing among the insurers and between the insurer and their agents was found to be a way of lowering losses occasioned by understatement of risks and/or exaggerated claims. The broker was also found to be useful to all parties, especially the client, in the interpretation of policy wording, particularly where claims arose. The broker, in the main, enhances the efficiency of the market by controlling insurance customers' penchant for opportunistic behaviors while filing claims for losses.

2.4.6 Firm Size

This section reviewed empirical evidence regarding the role of firm size, as a moderating influence on performance of insurance. Srivastava and Ray (2013) conducted a research to determine a set of marketing, financial and operational variables that predicted the financial strength of general insurance firms in India. Primary data was collected from qualitative inputs from practicing managers and industry experts. Secondary data from the key financial, operational and business data of eight Indian insurance firms was also collected, compiled and analyzed. The NAIC IRIS ratios method was used to obtain an initial risk classification. Linear regression and Logit techniques were thereafter applied to estimate the significant factors (direction-wise and magnitude-wise) which influence insurer solvency.

The results suggested that factors that most significantly influence Indian non-life insurers were lines of business, the firm's market share, the premium growth rate, the underwriting performance and the claims incurred. Further, the factors which have the strongest influence on financial performance are market share, change in inflation rate, lines of business and claims incurred. Firm size, represented by market share, emerged as a key indicator in predicting the financial strength of general insurance firms, somewhat justifying its use in this study as the sole moderating variable. These findings provided insurers with easy-to-use operational and marketing indicators to benchmark their solvency risk. It will enable competitive goal setting for continuous improvement (Srivastava & Ray, 2013).

In India, Majumdar (1997) investigated the effect of size and age on firm-level productivity and profitability, and, using contemporary data for an extensive sample of 1,020 Indian firms. The study employed a cross-sectional survey to collect secondary data from the center for monitoring the Indian economy and supplemented by the Bombay Stock Exchange data and the Reserve Bank of India. Firm size was measured as the natural log of total sales, while age is the number of years since the inception of the firm in the year the data are collected. The study employed regression analysis and the findings indicated that larger firms are found to be more productive and less profitable, whereas older firms were more profitable and less productive. These results were attributed to the institutional framework of the Indian economy, and industrial policy instruments, such as, inter-alia, restrictive entry policies, are purported to account for these findings with respect to the influence that size and age have on firm-level productivity and profitability. The Indian case demonstrated how size and age relates to firms' performance cannot be analyzed outside the institutional and regulatory framework that the firms operate within.

Clancy and Román (2014) conducted an empirical investigation of the relationship between firm size and resource productivity to assess whether the productivity of resources (value in use) and their underlying value at sale (value in sale) vary with firm's size. Their methodology relied on seemingly unrelated regression of revenues and equity values on assets and employees for a large sample of firms over a wide time period and across all industries. Clancy and Román compared firms that were growing, declining, or continuing in size relative to their industry.

Their findings indicated that with some variability on growth, smaller firms held more productive resources based on their capacity to generate more revenues per unit of resources (assets) relative to large firms. Further, as predicted, a firm's workforce had productive value in use, but limited value after a firm's sale, as measured by equity values. Collectively, the findings suggested that firm size matters in influencing resource productivity, and a workforce has productive value in use, but low value in sale. This

study sought to address the research gap presented by examining how these findings emerged in the insurance sector rather than a multiplicity of industries.

Calandro and Lane (2004) observed that the underwriting or combined ratio has for a long period formed the basis for measuring operating performance in the insurance sector. The underwriting ratio is defined as the sum of the ratio of indemnity claims and related expenses to earned premiums and the ratio of operating expenses to written premiums. The underwriting ratio focuses attention on the core business of the insurance sector, mainly policy sales and claims handling, probably serving as a largely relevant operational measure over the years. However, insurance firms, just like other industries, have been subject to change, with revenue streams increasingly being generated by non-core businesses. These alternative revenue streams are what the underwriting ratio fails to capture, mainly the investment returns paid as premium commission by reinsurance firms to the primary underwriters who have efficiently and profitably underwritten their risks.

2.4.7 Performance of Insurance Firms

The underwriting or combined ratio has for a long period formed the basis for measuring operating performance in the insurance sector. The underwriting ratio is defined as the sum of the ratio of indemnity claims and related expenses to earned premiums and the ratio of operating expenses to written premiums. The underwriting ratio focuses attention on the core business of the insurance sector, mainly policy sales and claims handling, thus serving as a largely relevant operational measure over the years. However, insurance firms, just like other industries, have been subject to change, with revenue streams increasingly being generated by non-core business. These alternative revenue streams are what the underwriting ratio fails to capture, mainly the investment returns and risk distribution (or reinsurance), which have grown in importance over time.

The other indicator of firm performance that this study adopted was the growth in policy sales. Growth in policy sales said to be a key indicator of market competitiveness, that is, how well a firm is doing against its competitors. This metric, supplemented by changes in sales revenue, helps managers evaluate both primary and selective demand in their market. This enables them to judge not only total market growth or decline but also trends in customers' selections among competitors. Generally, sales growth resulting from primary demand (total market growth) is less costly and more profitable than that achieved by capturing share from competitors. Policy sales indicate the size of the market share that an insurer has. Conversely, losses in policy sales can signal serious long-term problems that require strategic adjustments. Firms with market shares below a certain level may not be viable. Similarly, within a firm's product line, market share trends for individual products are considered early indicators of future opportunities or problems (Farris, Bendle, Pfeifer & Reibstein, 2010).

Investment returns as a percentage of premiums have dramatically increased over the years, while efficient reinsurance has become a critical part of capital management (Calandro & Lane, 2004). Investment income became of increased importance as a profit centre owing to the shift from short-term policies (those whose claims required settlement in the short-term) to long-term policies (whose settlement period extended over several years).The increased numbers of long term policies implied increased reserve funds (also known as premium float), whose return on investment constitute a formidable source of income for insurers.

Profitability is a fair measure of insurance firm performance as it will encompass all the income earned as a consequence of sales volumes. Hemrit and Ben Arab (2012) observe that profitability reflects the company's ability to generate a high return on all investments as well as the quality of the firm's investment portfolio. On the contrary, in their study in the Tunisian insurance sector, Hemrit and Ben Arab (2012) found no significant relationship between insurance firm profitability and the frequency and severity of operational losses. This was found to be consistent with studies done by Chen

et al. (2009), which pointed to the fact that firm profitability was not a proxy of management's ability to manage firm risk. Hemrit and Ben Arab however, identified viable operational risk monitoring and control systems as key to firm performance.

Dietrich and Wanzenried (2011) observed that profitability is a proxy of the creditworthiness of firms and their managerial ability to generate profitable underwriting outcomes. Operational risk, arising from the risk of losses incurred during underwriting and claims management, is seen to be a major source of variability in profitability in the insurance sector. Insurance firm profitability will be seen as a direct proxy of the efficiency of the underwriting process and the effectiveness of the management of claims. For insurers, the ability to manage operational risk is a key ingredient for predicting financial performance of the firm. Therefore, whether the firm is operating as a stand-alone entity or is part of any alliance, arrangement.

2.5 Critique of Reviewed Literature

This section critiqued the empirical literature with a detailed assessment of the different variables under study. It evaluated the impressions made from the previous studies and their relevance to the current study on influence of horizontal alliance strategy on performance of insurance firms in Kenya. This critique deconstructed these previous studies and reviewed the similarities and differences in terms of the scope of study, research methodology adopted, study objectives, research variables, conclusions drawn thereof and finally pointing out the research gaps.

Aduloju *et al*. (2008) conducted an empirical survey on the role of mergers and acquisitions in the recapitalization of the Nigerian insurance sector. The study investigated the reaction of the insurance underwriters towards the recapitalization exercise in Nigeria is investigated. Fifty-four questionnaires were properly filled and returned from members of staff of some selected insurance companies, upon which descriptive analytical tools and chi-square statistical tool were used. From the analysis, recapitalization has been enhancing the development of insurance industry and mergers

and acquisitions have remained a viable option for them to remain in business. The present study contrasts significantly with this study since it examined the influence of horizontal alliance strategy on the performance of insurance firms in Kenya.

Byeongyong *et al.* (2013) conducted a study that measured the level of US Property and Liability (P/L) insurer's liquidity creation and also identified factors affecting P/L liquidity creation. They used the loss ratio series of Switzerland, Germany, USA, and Japan, and tested for possible structural changes. The results showed that all four countries have breaks in different years. This result led to the hypothesis that factors affecting underwriting cycles are country-specific factors, such as economic environment and regulations, instead of global/ international effects. The study contrasted significantly with the present study since their research methodology relied only on secondary data obtained from accounting reports for the period dating from 1998 to 2007, whereas the present study used primary data and secondary data.

Ng, Chong and Ismail (2013) conducted a study in the insurance industry in Malaysia, to investigate the relationship between insurance firm size and underwriting risk taking. The sample used for empirical testing in this study comprised direct insurance firms licensed under Malaysia's Insurance Act 1996, for the time frame between 2000 and 2010. Pearson's correlation, fixed and random effects models and the system Generalized Method of Moments (GMM) method were used in the study. Their findings indicated that both the fixed effects and the system GMM panel data regression models suggested a positive link between the insurance firm size and underwriting risk. For the robustness test, the results of the analysis using changes in data broadly resemble the outputs of the levels estimation. The current study investigated the influence of horizontal alliance strategy on the performance of insurance firms using primary data and secondary data collected over a period of six months in contrast to the former study where the study was done in ten years.

Hemrit and Ben Arab (2012) examined the determinants of operational losses in insurance companies in the Tunisian insurance industry. By using most common

estimates of frequency and severity of losses that affected business-lines during 2009, the study integrated a quantitative aspect that reflected the mode of organization in the insurance company. The findings indicated that the frequency of operational losses was positively related to the market share and the rate of geographic Location. However, the occurrence of loss was negatively related to the variety of insurance activities. Further, there was a decrease in the frequency of losses associated with a large number of employees. The current study adopted simple regression analysis to determine the causal relationship among the study variables in contrast with studies conducted by Hemrit and Ben Arab (2012) they adopted multiple linear regression analysis.

Ai, Bajtelsmit and Wangz (2014) conducted a study on Enterprise Risk Management (ERM) and diversification effects for property and casualty insurance firms in the US. The study documented a significant product line and geographic diversification discount relative to more focused competitors. Their analysis suggested that firms with effective ERM programs exhibited a performance premium. Using the Standard and Poor's (S&P), ERM ratings from 2006 to 2012, they found that product line diversification has a significant positive effect on value for more diversified firms with well-implemented ERM programs, as compared to those with weak ERM. The methodology of their study relied only on secondary data for stock prices and financial accounting records while the present study adopted primary data and secondary data.

Chua and Lim (2000) conducted a demand audit of the insurance market in Singapore in which they investigated demand-side issues or causal factors that affected uptake of insurance products by retail consumers. The study used questionnaire as the tool for conducting interviews on the targeted respondents. Multivariate and regression analysis were used to test for any significant relationships between factors affecting insurance purchase decision and uptake of different insurance products. They found that approximately 44 per cent of the population does not own any form of insurance, for example life insurance and personal accidents insurance. The present study used simple regression analysis to test the significance of the relationships.

2.6 Research Gaps

A critical review of past literature showed that several conceptual and contextual research gaps existed. Organizations are becoming less self-sufficient and their survival largely depends on successful horizontal alliance strategy and co-operation with others. While the industry market leader has been renowned for actively being involved in horizontal alliance strategy to keep their tuff strong, no research has been conducted in the insurance industry. For this current study, the following research gaps were identified.

In considering horizontal alliance strategy and performance of insurance industry, existence of limited empirical studies was pointed out, notably by O'Donnell *et al*. (2001) and Jangkrajarng (2011) whose study was on empirical studies on strategic alliances in the airline industry. Locally, there were many studies on strategic alliances, for instance, Koigi, (2002) did a study on Postbank and Citibank; Musyoki (2003) did a case study of an NGO; Wachira (2003) studied pharmaceutical firms; Owuor (2004) studied oil companies; Kamanu (2005) studied NGOs; Kavale (2007) studied money transfer services; Mutinda (2008) studied Kenya Institute of Management; Kipchirchir (2009) studied the banking industry; Kibera (2009) studied Access Group Kenya; and Masila (2009) studied the alliance between Kenya Power and Safaricom Wanjiru (2010) studied Strategic Alliances and Competitive Advantage: A Case Study Of Safaricom Limited, where she recommended further studies should be done on other market players in the Telecommunication Industry in Kenya. However, these studies did not cover the influence of horizontal alliance strategy on the performance of insurance firms in Kenya.

Firm size has been proved to exert a moderating influence on the relationship between the independent variables and insurance firm profitability and underwriting ratios. In this regard, older firms have demonstrated declining profitability (Loderer & Waelchli, 2010)*,* found out that firms do best when they are young, yet roughly 15 years after listing (37 years after incorporation), they start underperforming. This relation can be explained by sample selection, manager age, industry age, time-varying risk,

deteriorating shareholder rights, or inter temporal changes in ownership structure while large size insurers have been found to be more technically efficient compared to medium- and small-size insurers (Asghar, Kausar & Talat, 2010).

2.7 Summary

This section reviewed the various theories that explain the independent and dependent variables. The reviewed theories were critiqued for relevance to specific variables. The chapter also explored the conceptualization of the independent and the dependent variables by analyzing the relationships between the two sets of variables. In addition, an empirical review was conducted. This review revolved around past studies done and those that were relevant to the research variables in the current study namely, liquidity, underwriting capacity, co-insurance of risks, diversification of risks and information sharing.

The literature review relating to the moderating variables and influence on firm performance was also reviewed. As measures of firm performance, the current study adopted insurance firm profitability, market share, investment returns and expeditious claim settlement. Measures of moderating variables the current study adopted the age of the firm and the number of branches each firm had. The review looked at the rationale and objectives underlying these studies, the methodology used and key findings from which research gaps relevant to this study, were drawn.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out the methodology and various procedures adopted to assist in achieving the research objectives. The objective of this research was to determine the influence of horizontal alliance strategy on the performance of insurance firms in Kenya. According to Newing (2011), a research methodology is concerned with what you will actually do in order to address the specific objectives and research questions you have developed. This chapter includes research philosophy, research design, target population, sample size, sampling technique, data collection instruments, pilot test, data processing and data analysis.

3.2 Research Philosophy

This study adopted positivism research philosophy, which holds that reality is concretized and has an independent existence of its own (Ashley & Orenstein, 2005). Positivism as a philosophy adheres to the view that only factual knowledge gained through observation (the senses), including measurement, is trustworthy. In positivist studies, the role of the researcher was limited to data collection and interpretation through objective approaches and the research findings are usually observable and quantifiable. According to the principles of positivism, it depends on quantifiable observations that lend themselves to statistical analysis. Moreover, in positivist studies the researcher is independent from the study (that is, maintains minimal interactions with the research participants when carrying out the research) and there are no provisions for human interests within the study. Crowther and Lancaster (2008) inform that as a general rule, positivist studies usually adopt a deductive approach. Moreover, positivism relates to the viewpoint that the researcher needs to concentrate on facts. This study adopted a positivist paradigm since it was empirical, and purely based on facts and

considers the world to be external and objective. All deductions were based on an interpretation of the data that was collected as per the objective approches outlined in the methodology. Ai, Bajtelsmit and Wangz (2014) conducted a study their methodology relied on secondary data for stock prices and financial accounting records. Their findings indicated that ERM had a strong positive effect on firm performance as measured by Return on Assets (ROA). On the other hand, business line diversification had a significant positive value effect on ROA.

3.3 Research Design

A research design is a plan showing how the research problem will be solved. The current study adopted a cross-sectional explanatory survey research design. It was a cross-sectional study since it involved the analysis of data collected from a population, or a representative subset, at one specific point in time. On the other hand, it was an explanatory study since the aim was to connect ideas to understand cause and effect, meaning the researcher wanted to explain what was going on (Shields, Patricia & Rangarjan, 2013).

The current study was also a survey since the basic idea was to measure the influence of selected independent variables on given dependent variable by asking people questions followed by an examination of the variables. This study attempted to investigate the influence of selected horizontal alliance strategies on the performance of insurance firms and therefore easily rendered itself to a cross-sectional explanatory survey design. The descriptive design was used in this study because of its appropriateness in establishing relationships between variables and facilitating the collection of information for determining the population parameter. This involved quantitative approaches that utilized techniques such as closed ended questionnaires to collect data.

3.4 Target Population of the Study

The target population of this study constituted, of forty four (44) insurance firms in Kenya that were duly registered, licensed and regulated by the IRA (IRA, 2016). It was from this target population that this study drew the sample of 176 employees, which were composed of four (4) top insurance firm managers from each firm. The target population for this study was 44 insurance firms in Kenya and they were further classified into three (3) key sub categories General business, Life business and Composite business. From each firm there four (4) respondents namely the General Manager, Underwriting Manager, Claims Manager and Marketing Manager from each insurance firm.

3.5 Sampling Frame

A sampling frame has the property that the researcher can identify every single element and include any in the sample (Pyrczak, 2010). The sampling frame was selected from the category of firms possessing the required information. The current study adopted censuses of all 49 insurance firms that were currently operating under the horizontal alliance strategy out of which forty four (44) insurance firms were selected for the study while five (5) insurance firms were isolated for pilot testing of the research instruments. An initial desk review helped the researcher to isolate these two categories of the firms for further analysis.

3.6 Sample and Sampling Technique

According to Mugenda and Mugenda (2008) sample selection recommendation of 30% of the population is considered adequate. Babbie (2012) observes that stratified sampling is used where the population embraces a number of distinct categories, and the sampling frame can be organized by these categories into separate strata. Each stratum is then sampled as an independent sub population, out of which individual elements can be randomly selected. Stratified sampling will allow the researcher to target firms based on

a number of attributes including the period of insurance firm's involvement in horizontal alliance. Simple random sampling where every item in the population has an equal chance of being chosen in a sample of items. Yamane (1967) formula as cited in Tokim et al. (2004) will be used to determine the sample from the strata.

As with most social sciences, a confidence level of 95% will be assumed (Creative Research System, 2003). For 95% confidence level, the level of significance was a=.05. Based on this assumption, the sample size was computed as follows:

n= $\underline{N}$

1+N (e)2

N= population, e = level of precision, n = sample. To arrive at the percentage used to calculate the proportionate sample size of respondents, 44 were divided by 49 yielding proportion of 89%. This is the percentage used to compute the sample presented in Table 3.1.

Table 3.1: Sub Categories of the Sample Size

Insurance Categories	Population	Sample	Percentage
Composite	11	10	89
Life	13	11	89
General Business	26	23	89
Total	**49**	**44**	**89**

3.6.1 Sample Size

The population comprised of 49 insurance firms and out of these, 44 firms were selected as the study sample. The 44 firms represent 89% of the population and this is more than 30% recommended by Mugenda and Mugenda (2003). Moreover, four (4) respondents.

Selection of four (4) respondents from each insurance firm was done as indicated in Table 3.2. The four respondents were General Manager in charge of technical Operations, Underwriting Manager, Claims Manager and Marketing Manager. This was adopted because of the technical nature of information to be derived from the respondents and the possibilities that these respondents had adequate knowledge about influence of horizontal alliance strategy on the performance of the insurance firms in Kenya.

Table 3.2: Sample Size

Management Level	Sample per registered Insurance firms (44)	Sample Size
General Manager Operations	1	44
Underwriting Manager	1	44
Claims Manager	1	44
Marketing Manager	1	44
Total	**4**	**176**

3.7 Data Collection Instruments

Primary data was collected using a questionnaire, which Pyrczak (2010) observed that this procedure gives the respondents adequate time to give well thought out answers. The questions in the questionnaire were closed ended questions. Kothari (2008) notes that whereas the open ended type gives respondents freedom of response, the closed ended types facilitate consistency of certain data across the respondents. The questionnaire is ideal for the survey, as it will enable quick collection of similar data across a relatively dispersed population. Using a predesigned questionnaire ensured that the information sought was relevant to the objective of the research. This procedure ensured that similar standard and focus of the research was maintained. Secondary data

was collected from the insurance firm's financial statements using a predesigned secondary data collection form

3.7.1 Data Collection Procedure

Primary data was collected using the questionnaire instruments. These were distributed personally to the respondents. These were administered on the participants by the researcher with the help of a research assistant. The default data collection procedures adopted the 'drop and pick' later method but where possible, the study used electronic methods such as email. Secondary data sources included IRA publications of company financial statements and information from IRA and company websites.

3.8 Pilot Test

The pilot study was conducted to check the validity and reliability of the research instruments. These are feasibility study (trial runs), done in preparation for the main study. This helped in the developing and pre-testing of the research instruments. It also gave advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated. Saunders *et al*. (2007) noted that pilot studies are useful in establishing whether the sampling frame and sampling technique are effective; estimating variability in outcomes to help in determining sample size; assessing the proposed data analysis techniques to uncover potential problems and training a researcher in as many elements of the research process as possible.

The research instruments were pretested using the 20 respondents as per recommendations by Babbie (2012), observed that a successful pilot study will use 1% to 10% of the actual sample size. These respondents were selected from a sample that was similar to the one under study. Subjects from the actual sample were not be used in the pre-test. Procedures used in pre-testing the questionnaire were similar to those used in the actual study. This pre- test helped in clarifying questions and in refining the data

analysis methods. Piloting ensured that all the questions were clear and understandable to the respondents. Twenty (20) respondents from the five (5) insurance firms that were used for pretesting representing 10%. These were top management employees of the five (5) insurance firms. In total they were four (4) claims managers, four (4) underwriting managers, four (4) marketing managers, and four (4) general managers were selected for this exercise. The se twenty (20) respondents from the piloted five (5) firms were excluded from the main study of the targeted sample population even though they were engaged in horizontal alliance distribution strategy. Procedures used in pre-testing the questionnaire were similar to those used in the actual study. The results of the pilot testing helped in revising the questionnaire to be appropriate for the study.

Reliability is concerned with establishing consistency within repeated measures. A reliable measurement is one that if repeated a second time, gives the same results as it did the first time (Mugenda & Mugenda, 2008). The researcher verified the length of the questionnaire and if it was appropriate for all and the time it took to complete it.

3.8.1 Reliability of Research Instrument

In this study, internal consistency was measured by calculating Cronbach's alpha. It measured internal consistency among a group of questions combined to form a single scale and reflects the homogeneity of the scale. A Cronbach's Alpha of .70 (70%) or higher was sufficient for the purpose of this evaluation (Kothari, 2008). The pilot results revealed that the research was reliable since all the Cronbach's Alpha were greater than 0.7 among all the variables. For quantitative data, reliability was assessed by examining the internal consistency of the study questions. Internal consistency was measured by calculating a statistic known as Cronbach's coefficient alpha. Coefficient alpha measureds internal consistency among a group of questions combined to form a single scale. It is a statistic that reflects the homogeneity of the scale. A Cronbach's coefficient alpha of .70 (70%) or higher was adopted for the purpose of study evaluation (Kothari, 2008).

3.8.2 Validity of Research Instrument

Validity refers to whether the questionnaire or study measures what it intends to measure. This study enhanced internal validity through careful designation of the end-term evaluation variables, eliminating selection bias through thoughtful sampling, avoiding repeated testing of the subjects to avoid conditioning them, consistently using the research tools, eliminating researcher bias through maintaining high levels of objectivity and training the enumerators (Adèr, Mellenbergh & Hand, 2008). In order to maintain high levels of external validity, the researcher ensured that the sampling frame was carefully drawn to ensure representativeness (Soeters, Shields & Rietjens, 2014). Data collection took approximately took six (6) months.

For further validity testing the method of principal component analysis (PCA) was used to test for validity of the research instrument. The criteria for factors extraction was based on Heir et al. (2010) which postulates that in study with a sample size of less than 200 factor loadings greater than 0.40 are assumed to be statistically significant for further studies. Since in the current study the sample size was 176, the cut off procedure of 0.40 was used on factor loadings. Moreover, Heir et al argued that the higher the factor loading the better the variable.

3.9 Data Analysis and Presentation

Data was analyzed using descriptive and inferential statistics. In this section, a variety of statistical procedures were used in the analysis of the data starting with descriptive statistics followed by inferential statistics such as factor analysis, correlations, and simple linear regression. All quantitative data analysis was done using Statistical Package for the Social Sciences (SPSS) software Version 22. Descriptive statistics that were used include mean, standard deviation, frequencies and percentages. Mean values informed the researcher on the expected score or measure from a group of scores in a study. Standard deviations will inform the analyst about the distribution of scores around the mean of the distribution. The frequency distribution and percentages recorded the

number of times a score occurs and the extent of occurrence of a particular observation respectively.

Factor analysis yields a set of factors or components which when interpreted describe the data in a parsimonious but more meaningful number of concepts than the original variables (Kothari, 2008). A factor analysis on both the dependent and independent variable items were conducted upon which reliability analysis for the retained items computed. The extracted components were used to compute new variables to be fitted in the simple linear regression models.

Inferential analysis included factor analysis, correlation analysis and simple linear regression (the findings from the testing of hypothesis was significant at $p \leq .05$). Simple linear regressions helped the researcher understand the nature of the relationship between insurance firm performance and the independent variables (Sprinthall, 2011). With ordinary least square (OLS) simple regression analyses, the study assessed the influence of independent variables on the dependent variable. The Analysis of Variance (ANOVA) was conducted to analyze the amount of variation within each of the sample relative to the amount of variation between samples.

3.9.1 Diagnostic Tests

Normality was determined by using the One Sample Kolmogorov Smirnov Test (KS) where, if the significance value of the Z statistic, p>.05, then the data is normal; if p $\leq$ .05, then the data significantly deviates from a normal distribution. Breusch -Pagan test was used to test for homoscedasticity (if all random variables in the sequence or vector have the same finite variance) and heteroscedasticity (if there are sub-populations that have different variability from others) to assess the equality of variances of the study variables. According to Garson (2012), homoscedasticity suggests that the dependent variable has an equal level of variability for each of the values of the independent variables. Homoscedasticity test is used to test for variance in residuals in the regression model used. Existence of equal variance of the error terms means normal distribution.

Lack of equal level of variability for each value of the independent variables is homoscedasticity.

The method of principal component analysis (PCA) was used to test for validity of the research instrument. The criteria for factors extraction was based on Heir et al. (2010) which postulates that in study with a sample size of less than 200 factor loadings greater than 0.40 are assumed to be statistically significant for further studies. Since in the current study the sample size was 176, the cut off procedure of 0.40 was used on factor loadings. Moreover, Heir et al argued that the higher the factor loading the better the variable.

Multicollinearity is a statistical phenomenon in which two or more independent variables in a multiple regression model have a high degree of correlation (Kothari, 2014). According to Murray and Corner (2009), correlation coefficient threshold should not go beyond 0.8 to avoid multicollinearity. If the correlation coefficient is beyond 0.8 this implies that there is multicollinearity.

3.9.2 Empirical Statistical Models

These empirical statistics models are stated as follows:

Model 1 – Influence of liquidity of alliance partners on the performance of insurance firms in Kenya.

$$Y1 = \beta_0 + \beta_1(X_1) + e \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{(Model, 1)}$$

Where:

Y = Insurance firm performance

X_1 = Liquidity

β_0 = Constant.

β_1 = the beta coefficient of liquidity.

e = Error term of the model.

Model 2 – Influence of the underwriting capacity of alliance partners on the performance of insurance firms in Kenya.

$$Y = \beta_0 + \beta_2(X_2) + e \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{(Model, 2)}$$

Where:

Y = Insurance firm performance

X_2 = underwriting capacity

β_0 = Constant

β_2 = the beta coefficient of underwriting capacity

e = Error term of the model.

Model 3 – Influence of the co-insurance of large risks of alliance partners on the performance of insurance firms in Kenya.

$$Y = \beta_0 + \beta_3(X_3) + e \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..\dots \text{(Model, 3)}$$

Where:

Y = Insurance firm performance

X_3 = Co-insurance of large risks.

β_0 = Constant.

β_3 = the beta coefficient of co-insurance of large risks.

e =Error term of the model.

Model 4 – Influence of diversification of risks of alliance partners on the performance of insurance firms in Kenya.

$$Y = \beta_0 + \beta_4(X_4) + e \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(Model, 4)}$$

Where:

Y= Insurance firm performance

X 4= Diversification of risks

β_0 =Constant

β_4= the beta coefficient of diversification of risks

e=Error term of the model.

Model 5 – Influence of information sharing of alliance partners on the performance of insurance firms in Kenya.

$$Y = \beta_0 + \beta_5(X_5) + e \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(Model, 5)}$$

Where:

Y= Insurance firm performance

X_5= Information Sharing

β_0 = Constant

β_5 = the beta coefficient of information sharing of alliance partners.

e =Error term of the model.

Model 6 - The general model stating the influence of horizontal alliance strategy on the performance of Insurance Firms in Kenya.

This study adopted the following statistical model for the direct relationship between the independent and dependent variables:

$$Y_1 = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad \text{(Model, 6)}$$

Where:

Y	=	Insurance firm performance
X_1	=	Liquidity
X_2	=	Increased underwriting capacity
X_3	=	Co-insurance of large risks
X_4	=	Diversification of large risks
X_5	=	Information sharing
β_0	=	Constant
β_1	=	the beta coefficient of liquidity
β_2	=	the beta coefficient of increased underwriting capacity
β_3	=	the beta coefficient of co-insurance of large risks
β_4	=	the beta coefficient of diversification of large risks
β_5	=	the beta coefficient of information sharing
e	=	Error term

Model 6 attempts to determine the causal relationship between the dependent variable and the five independent variables. The coefficients, beta (β), will indicate the magnitude and direction of the relationship between each independent variable, X, and insurance firm performance. The regression (or β) coefficients also represent the independent contributions of each independent variable to insurance firm performance,

also referred to as a partial correlation. The larger the value of the regression coefficients, the greater the influence of the given independent variable on insurance firm performance, while the sign of the coefficient will inform the study as to whether that independent variable enhances or inhibits performance. R-Square, also known as the coefficient of determination will be used to evaluate model fit.

More specifically, regression analysis helps us understand how the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed (Kothari, 2008). The error term is representative of any other moderating variable that may affect the relationship between study variables, but which were not factored into the causal relationship. Regression analysis assisted to understand the causal relationship among the independent and the dependent variables, and to explore the magnitude and direction of these relationships (Saunders et al., 2007). Fischer distribution test (F-test) will be used to test the significance of the overall model at a 95% confidence level

Model 7 - The moderating influence of firm size on the relationship between horizontal alliance on the performance of Insurance Firms in Kenya.

$$Y = \beta_0 + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3) + \beta_4(X_4) + \beta_5(X_5) + \beta_6(Z) + \beta_7(X_1*Z) + \beta_8(X_2*Z) + \beta_9(X_3*Z) + \beta_{10}(X_4*Z) + \beta_{11}(X_5*Z) + e \quad \dots\dots\dots\dots\dots(\text{Model, 7})$$

Where:

Y   = Insurance firm performance as predicted by the independent variables

X_1 =   Liquidity

X_2 =   Underwriting capacity

X_3 =   Co-insurance of large risks

X_4 =   Diversification of large risks

X_5 =   Information sharing

Z =   Firm size

β_0 =   Constant

β_1 =   the beta coefficient of liquidity

β_2 =   the beta coefficient of increased underwriting capacity

β_3 =   the beta coefficient of co-insurance of large risks

β_4 =   the beta coefficient of diversification of large risks

β_5 =   the beta coefficient of information sharing

β_6 =   the beta coefficient of firm size

e =   Error term

The regression model 7 was tested on how well it fits the data. The significance of each independent variable was tested. Fischer distribution test called F-test was applied, to test model goodness of fit. It refers to the ratio between the model mean square divided by the error mean square. F-test was used to test the significance of the overall model at a 95 percent confidence level. The p-value for the F-statistic was applied in determining the robustness of the model. The conclusion was based on p value where if the null hypothesis of the whole model was rejected then the overall model will be significant and if null hypotheses were accepted, the overall model will be insignificant. In other words if the p-value is less than 0.05 then it was concluded that the model is significant and has good predictors of the dependent variable and that the results are not based on chance. If the p-value is greater than 0.05, then the model was not significant and cannot be used to explain the variations in the dependent variable.

Correlation between the variables was tested. Pearson Correlation Coefficient is a measure of causal association between two variables (Kothari, 2014). Values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear; whereas a

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correlation of coefficient of -1 indicates that the two variables are perfectly related in a negative linear sense. On the other hand, a correlation coefficient of 0 indicates that there is no linear relationship between the two variables (Kothari, 2014). Kothari (2014), states that Karl Pearson Correlation Coefficient is the most widely used method of measuring the degree of relationship between two variables. It ranges from -1 to +1. A correlation coefficient of -1 indicates a perfect negative correlation, 0 indicates no correlation while +1 indicates a perfect positive correlation. Spiegel (2008), describes the Pearson's correlation coefficient, r, as stated in Table 3.3.

Table 3.3: Pearson's Correlation Coefficient

| | Coefficient r, | |
Strength of Association	Positive	Negative
Small or weak	0.1 to 0.3	-0.1 to -0.3
Medium or Moderate	0.1 to 0.5	-0.3 to -0.5
Large or Strong	0.5 to 1.0	-0.5 to -1.0

Source: Spiegel (2008)

3.10 Measurement of Variables and Analysis of Objectives

The following matrix in Table 3.4 summarizes the analysis approach which was used in the study.

Table 3.4: Measurement of Variables and Analysis of Objectives

S/N	Variables	Data Requirements	Source	Objective	Analytical Tools
1	Firm performance	Profitability	Published & audited annual financial report of companies,	To investigate the influence of horizontal alliance on performance of firms in the insurance industry	Multiple linear regression, correlation, and single sample t- test
	Firm performance	Market share	Respondents, secondary data from IRA	To investigate the influence of horizontal alliance on performance of firms in the insurance industry	Multiple linear regression, correlation, and single sample t- test
	Firm performance	Underwriting ratio	Published & audited annual financial report of companies,	To investigate the influence of horizontal alliance on performance of firms in the insurance industry	Multiple linear regression, correlation, and single sample t- test
2	liquidity	Quick ratio	Administration of questionnaire and secondary data collection	Determine the influence of a liquidity on the performance of insurance firms	Multiple linear regression, correlation and single sample t – test
3	Increased underwriting capacity	Loss ratio	Administration of questionnaire and secondary data collection form	The influence of increased under-writing capacity on the performance of insurance firms	Multiple linear regression, correlation and single sample t – test
4	Co-insurance of large risks	Loss ratio	Administration of questionnaire and secondary data collection form	The influence of co-insurance of large risks on the performance of insurance firms	Multiple linear regression, correlation and single sample t – test
5	Diversification of unique risks	Loss ratio	Administration of questionnaire and secondary data collection form	The influence of diversification of unique risks on the performance of insurance firms	Multiple linear regression, correlation and single sample t – test
6	Information sharing	Dummy variables (1=sharing; 0=no sharing)	Administration of questionnaire and secondary data collection form	The influence t of information sharing on the performance of insurance firms	Multiple linear regression, correlation and single sample t – test
7	Firm specific variable	Firm size	IRA records	The moderating influence of firm size on the relationship between horizontal alliance and firm performance	Multiple linear regression, correlation and single sample t – test

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter dealt with analysis and results of the data. The findings were presented based on the six specific objectives of the study. The general objective of the study was to study the influence of horizontal alliance strategy on performance of insurance firms in Kenya. Specifically, the study determined the influence of the liquidity, examined the influence of underwriting capacity, established the influence of co-insurance of large risks, determined the influence of diversification of risks and information sharing of alliance partners on the performance of insurance firms in Kenya. The moderating influence of firm size on the relationship between horizontal alliance strategy and performance of insurance firms in Kenya was also examined. A structured questionnaire was used for data collection. Section A addressed the general/demographic information of the research while section B to F addressed issues relating to independent variables section G addressed the moderating variable and section H related to the dependent variable. Research findings were presented by the use of tables and figures details of which are largely self-explanatory.

4.2 Response Rate

Response rate is the extent to which the final data set includes all sample members and is calculated as the number of people with whom interviews are completed divided by the total number of people in the entire sample, including those who refused to participate and those who are unavailable (Morton, Bandara, Robinson, & Carr, 2012). A total number of 176 questionnaires were administered. According to Table 4.1, response rate table indicated that 126 questionnaires were returned representing a response rate of 72% and 50 questionnaires were not returned representing a non response rate of 28%. According to Mugenda and Mugenda (2003), a response rate of

more than 50% is adequate for analysis. Further, Babbie (2004) indicated that return rates of 50% are acceptable, 60% good and 70% very good for analysis and publishing. The response rate achieved in this study was very good. The high response rate could have been attributed to self-administration of the questionnaires and a close follow up of the respondents.

Table 4.1: Response Rate

Questionnaires	Frequency	Percentage
Returned	126	72
Non returned	50	28
Total	**176**	**100**

4.3 Reliability Analysis

Reliability is an indication of the stability and consistency with which the instrument measures a concept and helps to assess the goodness of a measure (Bryman, 2008). In this study, Cronbach's Alpha was used to examine the research instrument reliability. Sekaran and Bougie (2010) argued that Cronbach's Alpha ranges between 0-1 and the higher the coefficient the more reliable the research instrument. The study consisted of five independent variables and one dependent variable. The independent variables comprised of liquidity, underwriting capacity, co-insurance of large risks, diversification of risks and information sharing. The moderating variable was firm size and the dependent variable, firm performance.

The findings shown in Table 4.2 show that liquidity had a coefficient of 0.847, underwriting capacity, a coefficient of 0.776, co-insurance of large risks, a coefficient of 0.839, diversification of risks, a coefficient of 0.763, information sharing, a coefficient of 0.912 and insurance firm performance, a coefficient of 0.831. In this study, the

coefficient ranged on 0.8 to 0.9, since none of the variable had a coefficient less than 0.7 then the research instrument was reliable and had good internal consistency. According to Sekaran and Bougie (2010) reliability value of 0.7 and above is recommended for social sciences and denotes that the research instrument is reliable.

Table 4.2: Reliability Test Statistics

Variable	Cronbach's Alpha	Number of items
Liquidity	0.847	5
Underwriting capacity	0.776	4
Coinsurance of Large risks	0.839	4
Diversification of Risks	0.763	4
Information sharing	0.912	4
Insurance firm performance	0.831	4

4.4 Respondents Background Information

The study sought the background information of the respondents, it included years of experience in the insurance firms, highest level of education, age, number of branches, numbers of years in operation, ownership status and number of staff in the industry. Frequencies, percentages, tables and figures were used to present the information.

4.4.1 Years worked in the Insurance firms

Results in Table 4.3 revealed that majority 68 (54%) of the respondents had worked in the insurance firms for a period ranging between 21-30 years, followed by 28 (22.2%) who had worked for 11-20 years. In addition, 20 (15.9%) had been in the insurance sector for less than 10 years. From the findings it can be deduced that most of the respondents had acquired on the job training thus they were knowledgeable enough to understand the influence of horizontal alliance strategy on insurance firm performance. Further, most respondents had been in the industry long enough to have developed the

indepth of experience required to respond objectively to issues relating to insurance and the influence of horizontal alliance strategy on the performance of insurance firms. According to Nkuah, *et al.* (2013), experience in terms of number of years a person has engaged in a particular firm was an important variable in dealing with issues of the firm.

Table 4.3: Years Worked in the Insurance firms

Number of years	Frequency	Percentage
Below 10 years	20	15.9
11- 20 years	28	22.2
21-30 years	68	54
Above 30 years	10	7.9
Total	**126**	**100**

4.4.2 Level of Education

The presentation in Table 4.4 revealed that 75 (59.5%) of the respondents were bachelor's degree holders, followed by 26 (20.6%) who had masters qualification, 15(11.9%) had diploma while 10 (7.9%) had high school qualifications. This implied that majority of the respondents had attained formal education. This high number of educated respondents was good for the study they were able to understand and respond to issues raised on the questionnaire making the information given reliable and valid.

Table 4.4: Level of Education

Education level	Frequency	Percent
High school	10	7.9
Diploma	15	11.9
Bachelor's degree	75	59.5
Master's degree	26	20.6
Total	**126**	**100.0**

4.4.3 Number of Branches

Bar graph (Figure 4.1) was used to summarize the data on insurance firm's network distribution (number of branches). Findings revealed that 62% had 10-49 branches, followed by 22% with 50-249 branches and 16% had below 10 branches. The growth in the number of insurance firm branches has implications for cost structure, business focus and profitability. Continued expansion of branch networks was consistent with the believe that branches are effective channels for generating income for the business firms. The findings of this study implied there was a wide penetration of insurance firms branch networks in Kenya.
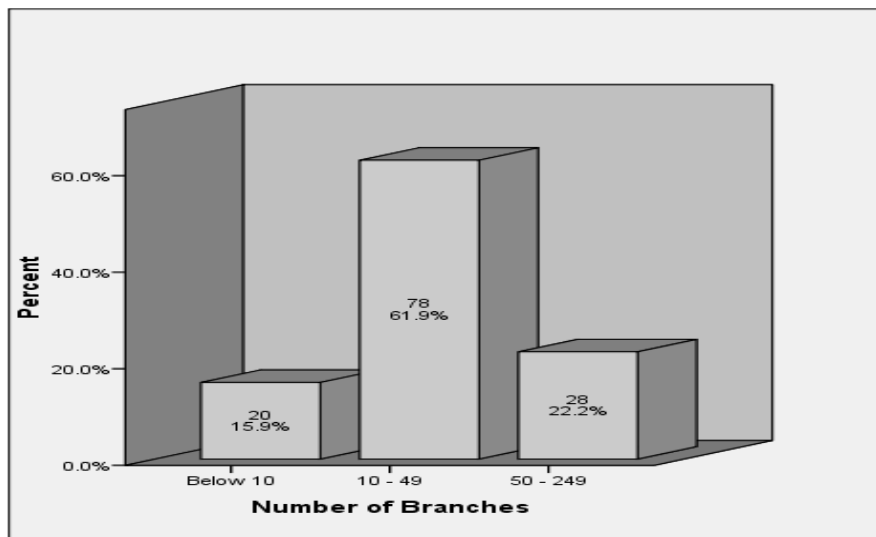
Figure 4.1: Number of branches

4.4.4 Number of Years in Operations

The study sought information on the number of years an insurance firm had been in operation. Number of years a firm has been in operation is an indicator of experience an insurance firm has gained in the business environment and consequently it is in a position to evaluate the most viable alliance approach. Tabulated findings in Table 4.5

revealed that 26 (59.1%) of insurance firms had been operational for more than 40 years followed by 9 (20.5%) which had operated for 31-40 years while 1 (2.3%) had less than 10 years operational experience. This implied that most insurance firms had good understanding of insurance firms operations before engaging in horizontal alliance strategy for the distribution of insurance products to enhance their performance.

Table 4.5: Number of Years in Operations

Years in Operation	Frequency	Percent
Below 10	1	2.3
11-20	3	6.8
21 – 30	5	11.4
31 – 40	9	20.5
Above 40	26	59.1
Total	**44**	**100**

4.4.5 Ownership Structure of Insurance Firm

The pie chart (Figure 4.2) showed that 66% of the insurance firms were fully private owned while 34% were both private and public owned. Public ownership requires disclosure of firm information which may be used strategically for both cooperation and potential competition. These disclosures may diminish the competitiveness and long-run profitability of public firms relative to private firms (Allee et al., 2015). Moreover, private firms have more flexibility than public owned firms to use sessional employees to meet peak underwriting periods, fire dissatisfied, workers and to distribute tasks across for better underwriting performance. Since insurance firms are profit making and competitive in nature, it can be deduced from the findings that since 66% of the firms under study were privately owned, these can easily be engaged in horizontal alliance strategy.
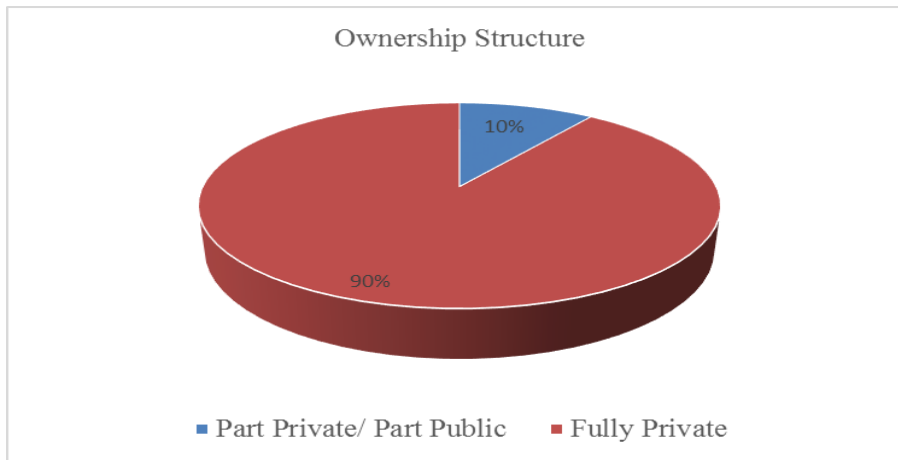
Figure 4.2: Ownership Structure of Insurance Firm

4.4.6 Industry Market Share

It is widely recognized that one of the main determinants of business profitability is market share. Under most circumstances, firms that have achieved a high share of the markets they serve are considerably more profitable than their smaller share rival (Ogbonna & Ogwo, 2013). Results in Table 4.6 indicated that none of the insurance firms owned more than 10% of the market share. This implied that there was intensive competition among the insurance firms in Kenya. This scenario created a good channel for horizontal alliance strategy amongst firms seeking to diversify their risks in the market.

Table 4.6: Industry Market Share

	Frequency	Percent
Below 10%	43	97.7
11% - 20%	1	2.3
Total	**44**	**100**

4.4.7 Number of staff

In regard to the number of staff/ employees as shown in Table 4.7, 93.7% of the insurance firms had between 50-249 employees. Insurance firms having 10-49 employees and above 250 employees had 4(3.2%) each. The majority of the insurance firms can be classified as small enterprises which are likely to be most challenged in terms of operational cost management. Therefore there was need of forming the horizontal alliance strategy especially when these firms are underwriting large risks to achieve their targeted performance. This would ensure that operational costs of underwriting of these risks was spread across insurance firms.

Table 4.7: Number of Staff

Number of Staff	Frequency	Percent
10-49	4	3.2
50 - 249	118	93.7
Above 250	4	3.2
Total	**126**	**100**

4.4.8 Management Position

Regarding management position in the insurance company, findings indicated that 22% of the respondents were general managers, 28% underwriting managers, 24% claims managers while 26% were marketing managers. The top managers were deemed knowledgeable enough to respond to the questionnaires of the research objectives.

Table 4.8: management position

Number of Staff	Frequency	Percent
General Manager	28	22
Underwriting Manager	35	28
Claims Manager	30	24
Marketing Manager	33	26
Total	**126**	**100**

4.5 Diagnostics Tests

Normality and Homoscedasticity Tests were done as stated below.

To test the normality of the dependent variable, performance of insurance firms, a One-Sample Kolmogorov-Smirnov Test (KS) was done. The null and the alternative hypothesis are stated below.

H_0: The data is normally distributed

H_1: The data is not normally distributed.

The rule is that if the p-value is greater than 0.05, H_0 is accepted and H_1 is rejected, if the p-value is less than 0.05, H_0 is rejected and H_1 is accepted.

The findings of this study in table 4.9 indicated that Kolmogorov-Smirnov Z statistic is 0.902 (p-value= 0.390). Since the statistic is high with the p-value greater than 0.05, the null hypothesis was accepted and conclusion made that the data was normally distributed and therefore fit for regression analysis.

Table 4.9: One- Sample Kolmogorov-Smirnov Test for Firm Performance

	Firm Performance
N	126
Kolmogorov-Smirnov Z	.902
Asymp. Sig. (2-tailed)	0.390

4.5.1 Homoscedasticity Test

According to Garson (2012), homoscedasticity suggests that the dependent variable has an equal level of variability for each of the values of the independent variables. Homoscedasticity test is used to test for variance in residuals in the regression model used. Existence of equal variance of the error terms means normal distribution. Lack of equal level of variability for each value of the independent variables is homoscedasticity. Breusch-Pagan Test was used to test for homogeneity in a linear regression model. The null and alternative hypotheses are stated below.

H_0: The data is heterogeneous in variance

H_1: The data is not heterogeneous in variance

The rule is that if the p-value is greater than 0.05, H_0 is accepted and H_1 is rejected, if the p-value is less than 0.05, H_0 is rejected and H_1 is accepted.

The findings of the test as shown in Table 4.10 indicate that the test statistic is 3.4981 (p-value= 0.6237) with the degrees of freedom. Since the p-value is greater than 0.05, the null hypothesis was accepted and conclusion made that there was homoscedasticity in the data thus satisfying the assumption of the regression.

Table 4.10: Homoscedasticity Test

Test Statistic	Degrees of Freedom	Sig.
3.4981	5	0.6237

4.6 Factor Analysis

The method of principal component analysis (PCA) was used to test for validity of the research instrument. The criteria for factors extraction was based on Heir et al. (2010) which postulates that in a study with a sample size of less than 200, factor loadings with greater than 0.40 are assumed to be statistically significant for further studies. Since in the current study the sample size was 176, the cut off procedure of 0.40 was used on factor loadings. Moreover, Heir et al argued that the higher the factor loading the better the variable.

The summary of the factor analysis for all the variables are stated in Table 4.11. The results for the horizontal alliance strategy showed that the factor loadings for the items under consideration were above 50%. All the items were accepted based on the general rule of thumb for acceptable factor loading of 0.40 and above. No item was removed or dropped. All the five attributes on liquidity of insurance firms had factor loadings greater than 0.40 thus they were considered for consequent analysis in the study. None of the four factors describing underwriting capacity had factor loadings less than 0.5 thus were considered for subsequent analysis. All the four attributes on co-insurance of risks had factor loadings greater than 0.40. This implied that all the four attributes were significant for subsequent analysis. All the items considered in diversification of risks had factor loadings greater than 0.40 thus they were significant for subsequent analysis. Regarding the information sharing all attributes had factor loading greater than 0.40 therefore they were significant for subsequent analysis. Factor loadings for the two attributes of firm size were greater than 0.40 thus they were all valid for subsequent

statistical analysis. Factor loadings for the four attributes of firm performance were greater than 0.40. This implied that all were valid for subsequent statistical analysis.

Table 4.11: Factor Analysis for all the Variables

Variables	Number of items	Loadings	Comment
Liquidity	5	50% and Above	Accepted
Underwriting Capacity	4	50% and Above	Accepted
Co-insurance of Risks	4	50% and Above	Accepted
Risk Diversification	4	50% and Above	Accepted
Information Sharing	4	50% and Above	Accepted
Firm Size	2	50% and Above	Accepted
Firm Performance	4	50% and Above	Accepted

4.7 Descriptive Statistical Analysis for Study Variables

Descriptive statistics provides simple summaries about variables and their measures. Descriptive statistics form the basis of virtually every quantitative analysis of data. In current study, all the questions required the respondents to indicate their level of agreement on different indicators of liquidity, underwriting capacity, co-insurance of large risks, diversification of risks, information sharing, firm size and the firm performance. The tables are presented using frequency, percentage, mean and standard variation.

4.7.1 Liquidity of insurance firms

The influence of liquidity of alliance partners on the performance of insurance firms in Kenya was examined using the five statements indicated in Table 4.12. The respondents were requested to indicate their level of agreement with the given statements concerning the financial strength, ability to meet insurer obligations in settling claims and other

expenses through alliance formation, increase of underwriting margins by at least five percent in the insurance firms. The results in the table below shows that 42.9% of the respondents strongly agreed, 34.9% agreed, 11.1% neither agreed nor disagreed, 6.3% disagreed and 4.7% strongly disagreed. The findings showed that majority of the respondents (77.8%) believed that increased ability to meet insurer obligations in settling claims and other expenses through alliance formation, increased underwriting margins by at least five percent.

The findings concur with Obonyo (2016) who found a negative relationship between retention ratio and underwriting profit ratio indicates that when insurance firms cede their risks to reinsurance companies, this reduces their retention of the insurance premiums, the underwriting profit ratio increases. This is because when the insured perils occur, the insurance firms share the losses with the reinsurance companies commensurate to the ratio of the risk retained and ceded. This way, insurance firms that have less retentions may have better underwriting profits therefore the need for alliance formation to improve on the firm's liquidity.

The study aimed at establishing increased financial strength due to alliance formation increases earnings before profits and taxes, by at least five percent in the insurance firms. The findings indicated that 40.4% of the respondents strongly agreed, 37.3% agreed, 12.6% neither agreed nor disagreed, 7.1% disagreed and 2.3% strongly disagreed. Majority of the respondents strongly agreed that increased financial strength due to alliance formation increased earnings before profits and taxes, by at least five percent in the insurance firms.

Increased liquidity creation occasioned by alliance formation increased insurance firm earnings before profits and taxes, by at least five percent was another liquidity indicator that was examined. Results indicated that 45.2% of the respondents strongly agreed, 36.5% agreed, 7.9% neither agreed nor disagreed, 6.3% disagreed and 3.9% strongly disagreed. This implied that increased liquidity creation in a horizontal alliance imperative in profit earnings since most respondents strongly agreed with the statement.

The study examined whether increased in gross premium incomes due to horizontal alliance has an influence on the underwriting margins. The findings showed that 41.2% of the respondents strongly agreed, 33.3% agreed, 9.5% strongly disagreed while 7.9% of the respondents each neither agreed nor disagreed and disagreed. This implied that most respondents agreed that increase in gross premium income is due to horizontal alliance and this had a significant influence on the underwriting margins.

In regard to recapitalization, increasing the firm asset base, in a horizontal alliance maximizes earnings before profits and taxes, by at least five percent, 38% of the respondents strongly agreed, 36.5% agreed, 8.7% neither agreed nor disagreed, 8.7% disagreed and 7.9% strongly disagreed. The implication was that earnings before profits and taxes were a factor of the firm asset base since most respondents agreed with the statement. The results of the findings were in line with Wambu (2013) who conducted a study on the relationship between the profitability and the liquidity of commercial banks in Kenya. He found out there was a positive relationship between profitability and liquidity of commercial banks in Kenya.

All the liquidity indicators had a mean of five (5) strongly agreed with a standard deviation of one (1). This implied that most of the respondents strongly agreed that the liquidity is a strong indicator in a horizontal alliance strategy of insurance distribution. Results of the study were in agreement with past studies, the sample taken on the insurance firms reflect the earlier finding that liquidity has a positive and significant influence on insurance firm performance. As Grantham (2007) argued liquidity of an insurance firm is fundamental because of the need to maintain sufficient level of liquidity to be able to pay claims that are usually received unexpectedly. Horizontal alliance strategy therefore helps to improve the liquidity by encouraging sharing of resources such as technological infrastructure, enabling the realization of synergy in use of scale and more importantly ensuring financial strength is enhanced by the widening of markets (Grantham, 2007). Further, findings by Panigrahi (2013) on liquidity of five leading Indian cement companies, found out the liquidity of small firms were better as

compared to big ones and the growth rate of current ratio, quick ratio and working capital to current assets of all the companies were negative which indicated unsound liquidity.

Table 4.12: liquidity indicators

Liquidity Indicators	SD	D	N	A	SA			Total
	%	%	%	%	%	Mean	SD	%
Increased ability to meet insurer obligations in settling claims and other expenses in a horizontal alliance increases underwriting margins, by at least five percent	4.7	6.3	11.1	34.9	42.9	5	1	100
Increased financial strength in a horizontal alliance increases earnings before profits and taxes, by at least five percent	2.3	7.1	12.6	37.3	40.4	5	1	100
Increased liquidity creation occasioned by horizontal alliance increases insurance firm earnings before profits and taxes, by at least five percent	3.9	6.3	7.9	36.5	45.2	5	1	100
Increases in gross premium incomes in a horizontal alliance has an influence on the underwriting margins	9.5	7.9	7.9	33.3	41.2	5	1	100
Recapitalization, thus increasing the firm asset base, in a horizontal alliance maximizes earnings before profits and taxes, by at least five percent	7.9	8.7	8.7	36.5	38.0	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree- SA)

4.7.2 Underwriting capacity of insurance firms

The study examined influence of the underwriting capacity on the performance of insurance firms in Kenya as shown in Table 4.13. In response to whether improved internal risk management, due to increased underwriting capacity, increases insurance firm underwriting margins, by at least five percent. Results indicated that 46.8% of the respondents strongly agreed, 35.7% agreed, 8.7% disagreed, 4.7% disagreed while 3.9% neither disagreed nor agreed. Improved internal risk management is critical in underwriting capacity as it increased insurance firm underwriting margins as implied by 82.5% of the respondents.

The study found out increased market share led to increased earnings before profits and taxes by at least five percent. Results indicated that 55.5% strongly agreed, 30.9% agreed, 4.7% strongly disagreed, 4.7% neither disagreed nor agreed and 3.9% disagreed. This suggested that increased market share was critical in the enhancing the firms' earnings before profits and taxes since 86.4% of the respondents agreed with the statement.

Regarding whether increased number of experienced technical personnel lowers level of operational losses before profits and taxes by at least five percent, 46.8% of the respondents strongly agreed, 32.5% agreed, 11.9% neither agreed nor disagreed, 7.1% disagreed and 1.5% strongly disagreed. Majority of the respondents were of the opinion that increased number of experienced technical personnel lowers level of operational losses in the insurance firms.

The study sought to find out if increased total volume of transactions increases earnings before profits and taxes, by at least five percent. Results showed that 46% of the respondents strongly agreed, 37.3% agreed, 7.1% neither agreed nor disagreed, 5.5% agreed and 3.9% strongly disagreed. This was an indication that majority of the respondents strongly agreed that increased total volume of transactions in alliance increases earnings before profits and taxes in the insurance firms.

All the underwriting capacity indicators had a mean of five (5) strongly agreed with a standard deviation of one (1). This implied that most of the respondents strongly agreed that underwriting capacity is a strong indicator in a horizontal alliance strategy of insurance distribution. Majority of the respondents were of the opinion that increased number of experienced technical personnel lowers level of operational losses in the insurance firms. This study evidenced that underwriting capacity had a positive and significant relationship with insurance firm performance. Unlike, previously suggestion by Ng *et al.,* (2013) that increased underwriting capacity does not really guarantee improved performance of firms; the current study found that with enhanced regulation and proper internal risk management positive results in the firm's performance were inevitable.

Table 4.13: underwriting capacity indicators

Underwriting Capacity Indicators	SD	D	N	A	SA			Total %
	%	%	%	%	%	Mean	SD	
Improved internal risk management, in a horizontal alliance due to increased underwriting capacity increases insurance firm underwriting margins, by at least five percent	4.7	8.7	3.9	35.7	46.8	5	1	100
Increased market share in a horizontal alliance leads to increased earnings before profits and taxes by at least five percent	4.7	3.9	4.7	30.9	55.5	5	1	100
Increased number of experienced technical personnel lowers level of operational losses before profits and taxes by at least five percent	1.5	7.1	11.9	32.5	46.8	5	1	100
Increased total volume of transactions in a horizontal alliance increases earnings before profits and taxes, by at least five percent	3.9	5.5	7.1	37.3	46	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree-SA)

4.7.3 Co-insurance of large risks in the insurance firms

The study sought to establish the influence of co-insurance of large risks in horizontal alliance on the performance of insurance firms in Kenya. The results are shown in Table 4.14. 55% of the respondents strongly agreed, 25% agreed, 11% neither agreed nor disagreed, 4.7% strongly disagreed and 3.9% disagreed that increased ability to unravel the technical complexities of large scale projects, through co-insurance, increases earnings before profits and taxes, by at least five percent. This implied that most of the respondents strongly agreed that increased ability to unravel the technical complexities of large scale projects, through co-insurance influenced the performance of insurance firms in Kenya.

The research endeavored to find out if re-insurance arrangements occasioned by co-insurance, increases earnings before profits and taxes, by at least five percent. Results indicated that 37% strongly agreed, 44% agreed, 7.9% disagreed, 7.1% strongly disagreed and 4.7% neither agreed nor disagreed. This showed that most of the respondents agreed that re-insurance arrangements occasioned by co-insurance, increased earnings before profits and taxes in the insurance firms.

The study findings concur with Dahena and Dionne (2010) observed that insurer's increases their competitive advantage by exploiting the reinsurance option to simultaneously maximize market share and spread portfolio risk. In the light of increased risk faced by insurance firms, especially in the emerging markets where they have little prior expertise, reinsurance has gained prominence as a critical part of portfolio risk management Byeongyong *et al.,* (2013) findings on reinsurance indicated that on average, small insurers relied more on reinsurance and that reinsurance utilization had a statistically significant positive relationship to liquidity creation 95% percent of the time. From this, it could be inferred that reinsurance promotes increased risk taking among firms.

Regarding whether co-operation between horizontal alliance partners occasioned by co-insurance increases earnings before profits and taxes, by at least five percent, results indicated that 50% strongly agreed, 36% agreed, 7.9% disagreed, 3.9% neither agreed nor disagreed and 2.3% strongly disagreed. The results showed that lowered operational expenses, occasioned by co-insurance, led to increased underwriting margins in insurance firms since 86% of the respondents were in agreement with the statement.

The study examined whether psychological parameters occasioned by co-insurance, increases earnings before profits and taxes, by at least five percent. Results indicated that 45% of the respondents strongly agreed, 37% agreed, 7.1% strongly disagreed, 5.5% neither agreed nor disagreed and 4.7% disagreed. This implied that majority of the respondents strongly agreed that psychological parameters occasioned by co-insurance, increased earnings before profits and taxes in insurance firms.

The mean was 5 (Strongly Agreed) suggesting that majority strongly agreed with the statement with a small variation of 1 (standard deviation is 1).The results agreed with Kelly (2004) discovery that there was a need to change the approach towards underwriting large risks from the traditional arrangements to alliances that help share the risk among institutions. This was necessitated by the need to protect insurance firms from a possible significant risk that would alter firm's operations from a single settlement claim (El Adaway & Kandil, 2010).

Table 4.14: co-insurance of large risks indicators

Co-insurance of Large Risks Indicators	SD	D	N	A	SA			Total
	%	%	%	%	%	Mean	SD	%
Increased ability to unravel the technical complexities of large scale projects, in a co-insurance, increases earnings before profits and taxes, by at least five percent	4.7	3.9	11	25	55	5	1	100
Re-insurance arrangements in a coinsurance, increases earnings before profits and taxes, by at least five percent	7.1	7.9	4.7	44	37	4	1	100
Co-operation among insurers in a coinsurance increases earnings before profits and taxes, by at least five percent	2.3	7.9	3.9	36	50	5	1	100
Psychological parameters occasioned by coinsurance, increases earnings before profits and taxes, by at least five percent	7.1	4.7	5.5	37	45	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree-SA)

4.7.4 Diversification of risks of insurance firms

The study sought to find out the influence of diversification of risks among the horizontal alliance on the performance of insurance firms in Kenya. Results of the descriptive analysis are shown in Table 4.15. In regard to whether business line diversification had a positive influence on earnings before profits and taxes, by at least five percent, findings revealed that 46.8% of the respondents strongly agreed, 35.7% agreed, 9.5% disagreed, 4.7% neither agreed nor disagreed and 3.1% strongly disagreed. This implied that majority of the respondents strongly agreed business line diversification had a positive influence on earnings before profits and taxes in insurance firms.

The study sought to examine if geographic diversification had a positive influence on earnings before profits and taxes, by at least five percent. Results indicated that 42.8% strongly agreed, 34.9% agreed, 10.3% neither agreed nor disagreed, 8.7% disagreed and 3.1% strongly disagreed. This implied that most respondents agreed that geographic diversification had a positive influence on earnings before profits and taxes in insurance firms.

Regarding whether liquidity creation resulting in illiquid assets occasioned by diversification of risks had a positive influence on earnings before profits and taxes, by at least five percent, findings indicated that 40.4% strongly agreed, 38.8% agreed, 10.3% neither agreed nor disagreed, 8.7% disagreed and 3.9% strongly disagreed. The results implied that liquidity creation resulting in illiquid assets occasioned by diversification of risks had a positive influence on earnings before profits and taxes in insurance firms since 79.2% of the respondents agreed with the statement.

In regard to whether systemic risk, affected all policies simultaneously had a positive influence on earnings before profits and taxes, by at least five percent, 42.8% of the respondents strongly agreed, 34.1% agreed, 9.5% neither agreed nor disagreed, 9.5% disagreed and 3.9% strongly disagreed. The findings implied that systemic risk which affects all policies simultaneously had a positive influence on earnings before profits and taxes in insurance firms as evidenced by most respondents strongly agreeing on the statement.

All the diversification of risks indicators had a mean of five (5) strongly agreed with a standard deviation of one (1). This results implied that most of the respondents strongly agreed that the diversification of risks is a strong indicator in a horizontal alliance strategy of insurance distribution. Diversification of risks is a 'necessary evil' for firms engaging in in the insurance industry (Busse *et al.,* 2013). As proved by the results of this study increased diversification of risk leads to improved performance, as shown by the strong positive correlation analysis and later confirmed by regression analysis. Firms

engaging in horizontal alliance strategy would enjoy the benefit that comes with mitigated risks as well as the complete diversification of the risk.

Table 4.15: diversification of risks indicators

Diversification of Risks Indicators	SD	D	N	A	SA			Total %
	%	%	%	%	%	Mean	SD	
Business line diversification has a positive influence on earnings before profits and taxes, by at least five percent	3.1	9.5	4.7	35.7	46.8	5	1	100
Geographic diversification has a positive influence on earnings before profits and taxes, by at least five percent	3.1	8.7	10.3	34.9	42.8	5	1	100
Liquidity creation , resulting in illiquid assets occasioned by diversification of risks has a positive influence on earnings before profits and taxes, by at least five percent	3.9	6.3	10.3	38.8	40.4	5	1	100
Systemic risk, which affects all policies simultaneously has a positive influence on earnings before profits and taxes, by at least five percent	3.9	9.5	9.5	34.1	42.8	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree-SA)

4.7.5 Information sharing of firms

The study determined the influence of information sharing among horizontal alliance partners on the performance of insurance firms in Kenya and the results are shown in Table 4.16. The study determined if mobilization technology among the alliance partners influences access to real time information, increases earnings before profits and taxes, by at least five percent. Results indicated that 44.4% strongly agreed, 38.8% agreed, 8.7% neither agreed nor disagreed, 3.9% disagreed and 3.9% strongly disagreed implying that most respondents agreed mobilization technology between the alliance

partners influenced access to real time information, increased earnings before profits and taxes in insurance firms.

The study ascertained whether policy purchase decision, influenced by information sharing among insurers, increases insurers earnings before profits and taxes, by at least five percent. 43.6% strongly agreed, 30.1% agreed, 12.6% disagreed, 9.5% neither agreed nor disagreed and 3.9% strongly disagreed. The results implied that policy purchase decision, influenced by information sharing among insurers, increases insurers earnings before profits and taxes in insurance firms since 73.7% of the respondents agreed with the statement.

On whether reduced contractual opportunism by policy holders, where they understate their true risk exposure, due to information sharing, increases earnings before profits and taxes for insurers, by at least five percent, 46% of the respondents strongly agreed, 33.3% agreed, 8.7% disagreed, 6.3% neither agreed nor disagreed and 5.5% strongly disagreed.

The results implied that most respondents agreed that reduced contractual opportunism by policy holders, where they understate their true risk exposure, due to information sharing, increases earnings before profits and taxes for insurers in insurance firms.

The study determined whether reduced moral hazard/adverse selection, due to information sharing among insurers, increases earnings before profits and taxes, by at least five percent. 46.8% strongly agreed, 35.7% agreed, 7.1% strongly disagreed, 6.3% disagreed and 3.9% neither agreed nor disagreed. This meant that reduced moral hazard/adverse selection, due to information sharing among insurers, increases earnings before profits and taxes in insurance firms since 82.5% of the respondents agreed with the statement. These findings concurred with those from Yusuf (2010) that information sharing, through the use of brokers in the process from underwriting of risks to claim sorting, mitigates the insurers' exposure to moral hazard and adverse selection. This

information was designed to assist the insurance industry in developing suitable policies to meet the industry demands (Yusuf, 2010).

The relationship between information sharing, as assessed from the perspective of contractual opportunism, insurance purchase decision, mobilization technology, moral hazard and psychological factors and insurance firm performance were found to be positive and significant. The mean was 5(strongly agree) suggesting that majority strongly agreed with the statement with a small variation of 1 (standard deviation 1).This meant that a rise in the degree of information sharing in an alliance would be followed by improved performance of the insurance firm. Similarly, managers' report from Chua and Lim (2000) study had earlier indicated that knowledge and understanding of the customers through interaction had significant influence on improving firm's profitability. Therefore, Chua and Lim (2000) proposed the formation of horizontal alliance strategy to enable firms to share information in the same industry which will help in the production of products that suits their clients.

Table 4.16: information sharing indicators

Information Sharing Indicators	SD	D	N	A	SA			Total
	%	%	%	%	%	Mean	SD	%
Mobilization technology between the alliance partners influencing access to real time information, increases earnings before profits and taxes, by at least five percent	3.9	3.9	8.7	38.8	44.4	5	1	100
Policy purchase decision, influenced by information sharing among insurers, increases insurers earnings before profits and taxes, by at least five percent	3.9	12.6	9.5	30.1	43.6	5	1	100
Reduced contractual opportunism by policy holders, where they understate their true risk exposure, due to information sharing, increases earnings before profits and taxes for insurers, by at least five percent	5.5	8.7	6.3	33.3	46	5	1	100
Reduced moral hazard/adverse selection, due to information sharing among insurers, increases earnings before profits and taxes, by at least five percent	7.1	6.3	3.9	35.7	46.8	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree-SA)

4.7.6 Firm size

The study examined the role of the moderating variable firm size on the performance of insurance firms' performance in Kenya is as indicated in Table 4.17. The study evaluated whether insurance firms with large branch network, increases earnings before profits and taxes, by at least five percent. 54% strongly agreed, 28% agreed, 8.7% disagreed, 7.1% neither agreed nor disagreed and 2.3% strongly disagreed. The results

indicate that Insurance firms with large branch network, increases earnings before profits and taxes, since 82% of the respondents agreed with the statement.

The study examined whether insurance firms with many operational years have increased earnings before profits and taxes, by at least five percent. Findings indicated that 52% strongly agreed, 29% agreed, 7.9% neither agreed nor disagreed, 7.1% disagreed and 3.1% strongly disagreed. The results implied that majority of the respondents agreed insurance firms with many operational years have increases earnings before profits and taxes. The mean was 5(Strongly Agree) suggesting that the majority strongly agreed with statement with a small variation of 1 (standard deviation 1). The findings of this study concurred with studies conducted by Srivastava and Ray (2013) who found that firm size, represented by market share, emerged as a key indicator in predicting the financial strength of general insurance firms. Further, they indicated that with high market share, firms are able to post higher earnings hence profitability.

Table 4.17: firm size indicators

Firm Size Indicators	SD	D	N	A	SA			Total
	%	%	%	%	%	Mean	SD	%
Insurance firms with large branch network, increases earnings before profits and taxes, by at least five percent	2.3	8.7	7.1	28	54	5	1	100
Insurance firms with many operational years have increases earnings before profits and taxes, by at least five percent	3.1	7.1	7.9	29	52	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree-SA)

4.7.7 Insurance Firm Performance

The study examined performance issues as measured by growth in return on equity, underwriting ratios, return on assets, operating expenses and the number of indemnity claims settled in the insurance firms in Kenya and the results are shown in Table 4.18. Regarding increased number of business lines has led to increased growth of market share, 55% strongly agreed, 29% agreed, 7.1% neither agreed nor disagreed, 5.5% disagreed and 3.9% strongly disagreed. The results suggested that respondents strongly agreed that introducing new insurance products has led to the growth of market size/share of insurance firms.

The study determined whether underwriting profits is occasioned by increased underwriting premiums. Results indicated that 41% strongly agreed, 39% agreed, 11% disagreed, 5.5% strongly disagreed and 3.1% neither agreed nor disagreed. The findings implied that underwriting profits occasioned by increased underwriting premiums increased earnings before profits and taxes. Majority of the respondents 80% agreed with the statement.

The study found out that the ability to manage earned underwriting premiums and underwriting losses leads to profitability. 44% of the respondents strongly agreed, 37% agreed, 7.1% neither agreed nor disagreed, 6.3% strongly disagreed and 5.5% disagreed. These results implied that majority of the respondents agreed that ability to manage underwriting risks and underwriting losses leads to profitability.

In regard to whether expeditious claims settlement enhances performance, 41% strongly agreed, 33% agreed, 10% neither agreed nor disagreed, 7.9% disagreed and 7.1% strongly disagreed. The findings implied that majority of the respondents agreed that expeditious claims settlement enhances performance in the insurance firms.

According to Pauwels *et al*. (2003), product introductions have positive effects on the firm's top-line and bottom-line financial performance and on the firm value both in the

short-run and long-run. Further, there is evidence showing the relevance of firms prone to risk firms in the attainment of results. The achievement of firms' goals is sometimes based on a great deal of uncertainty, bold decisions and actions are many times a necessary condition. Eventually, firms that are strategic and are risk takers improve their performance compared to those that shun risk taking (Ling *et al*., 2008).

Table 4.18: Insurance firm performance

Performance Statements	SD	D	N	A	SA			Total
	%	%	%	%	%	Mean	SD	%
Increased insurance policy sales occasioned by horizontal alliance strategy has increased gross written premiums by at least five percent	3.9	5.5	7.1	29	55	5	1	100
Increased investment returns influenced by horizontal alliance strategy has led to increased earnings before profit and taxes	5.5	11	3.1	39	41	5	1	100
Insurance firm ability to manage earned underwriting premiums and losses leading to profitability has been influenced by horizontal alliance strategy	6.3	5.5	7.1	37	44	5	1	100
Increased number of indemnity claims settled occasioned by horizontal alliance strategy influences insurance firm performance	3.1	6.3	7.9	44	39	5	1	100

(Strongly Disagree- SD, Disagree- D, Nether Agree nor Disagree- N, Agree- A, Strongly Agree-SA)

4.7.7.1 Financial performance of each category of business in the Insurance firms

Using secondary financial data obtained from the online IRA financial reports of each insurance firm, the study sought to calculate the return on investment (ROI) of different insurance firms' categories. Therefore, net income of each class of category and total expenses were sought and ratio calculated to obtain the ROI. Table 4.19 shows the response.

Table 4.19: Return On Investment (ROI) of different categories of business in the Insurance firms from 2012 to 2016

Return on Investment	2012	2013	2014	2015	2016	AVG
Composite business	38%	41%	44%	47%	49%	**43.80%**
Life business	18.70%	20.40%	24.40%	25.80%	25.90%	**23.04%**
General business	34.80%	35.20%	37.20%	41.20%	43.20%	**38.32%**
Average	**31.8%**	**34.1%**	**35.2%**	**38%**	**39.3%**	**35.68%**

According to table 4.19, the ROI performance of the three categories of business averagely shows that there is increase in performance trend especially 2012-2016 for all the three insurance business categories. Given that this ratio measured insurance firms total financial strength for the last five years, determined from revenue and investment (capital) gave an indication and a clear picture of profits as derived from active capital in the business. Khrawish (2011) also asserts that ROI gives an idea as to how efficient management is using its assets to generate income and profits. However, the decisions as they are will direct the capital required and how to use it with the overall implication being on the profitability of the insurance firms. The computations from the secondary data showed that average return on investments for the three categories were 43.8%, on composite business, 23.04% on life business and 38.32% from general business. In Byeongyong, Jin and Chia (2013) study on liquidity creation or de-creation in the USA P/L industry, firm diversification was found to be a control variable which was

measured along the number of lines of business an insurer underwrite and the level of geographic spread. From the study findings it indicates that composite insurers with many lines of business generate more income than life and general business.

4.7.8 Return on Assets

The study also sought to calculate the return on asset (ROA) of different categories of insurance firms in Kenya. This was imperative to show the overall insurance firm performance from an accounting perspective and underwriting efficiency, showing how capable the management of each category was able to translate its assets into net income. Therefore, net income and total assets of each category for the last five years was sought and (ROA) calculated for each year. The results was as shown in Table 4.20

Table 4.20: Return On Asset (ROA) of different categories of business in the insurance firms for the last five years 2012 to 2016

Return on Assets	2012	2013	2014	2015	2016	AVG
Composite Business	4.00%	5.30%	5.70%	6.20%	6.40%	**5.52%**
Life business	2.70%	3.00%	3.50%	3.80%	4.10%	**3.42%**
General Business	4.40%	4.60%	4.20%	4.10%	4.30%	**4.32%**
Average	**3.7%**	**4.3%**	**4.46%**	**4.7%**	**4.9%**	**4.41%**

The trend on the performance in this ratio for each category reveals that for the past five years, there has been increase in ROA financial performance. This was an indicator that the profitability of each category in relative to its total assets was on the upward trend for the past five years. Khrawish (2011) also asserts that ROA gives an idea as to how efficient management is using its assets to generate income and profits. The five year trend computations in average performance on return on assets for the three insurance categories were, composite business 5.52%, life business 3.42% general business 4.32%.

4.8 Regression Analysis and ANOVA Tests

The current section presents both regression and correlation analysis which were used to test the null hypotheses. Among the six null hypotheses none of them was confirmed. . Both beta coefficient and significance were used to interpret the results. Prior to regression analysis linearity test was carried through use of PP plot, for all simple linear regression models (equations) in the study. The beta coefficient and significance were used to interpret the results. Kothari (2014) defined regression as the determination of the statistical relationship between two or more variables. In simple regression, there are two variables; one variable (independent) is the cause of behaviour of another variable (dependent). When there are two or more independent variables, the analysis concerning relationship is the multiple regression and multiple regression equation. Further, Kothari (2014) stated that ANOVA is the procedure for testing the difference among different groups of data for homogeneity. In ANOVA, the total amount of variation in a set of data is broken down into that amount attributed to chance and that amount which can be attributed to specific causes.

4.8.1 Hypotheses 1: Liquidity And Insurance Firm Performance

The linearity test as shown in figure 4.3 shows a linear relationship between liquidity and performance of insurance firms in Kenya.
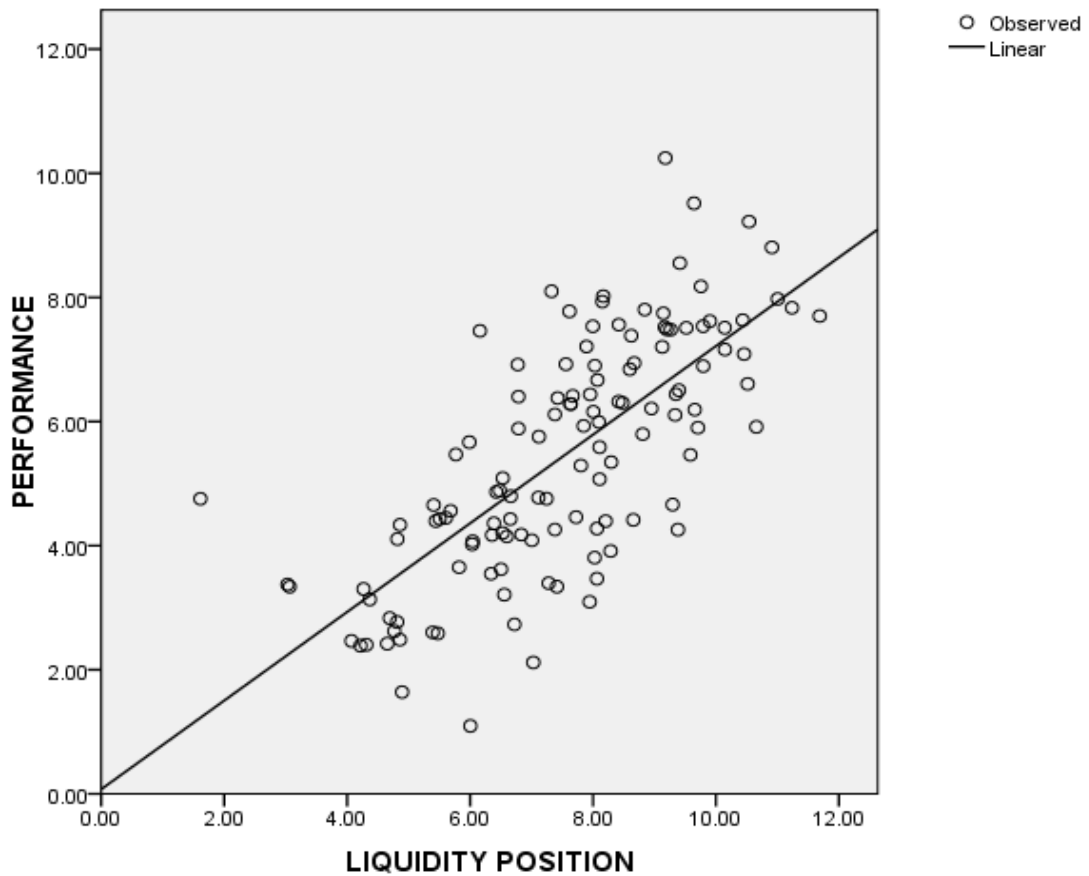
Figure 4.3: Linearity Test on the influence of Liquidity on performance of Insurance firms

Results in Table 4.21 shows both correlation and regression analysis results. There was a positive and significant relationship between liquidity and insurance firm performance in Kenya (R= 0.722, p value <0.05). An R squared of 52.1 shows that 52.1% of the variation in insurance firm performance can be explained by liquidity of the insurance firm.

Regression results revealed that there was a positive and significant relationship between liquidity and insurance firm performance (β= 0.714, p value <0.05). This implied that a unit change in liquidity increased insurance firm performance by 0.714 units. Therefore insurance firms should devise measures aimed at controlling the liquidity and consequently improve on their performance.

A review of Byeongyong et al. (2013) study revealed that organization that engage in converting liquid liabilities into illiquid assets may be imposing unnecessary risk to the firm and to policyholder as well. One of the ways to ensure that such firm remain liquid is through alliances as it opens market and tends to diversify unavoidable risk away, otherwise firms that hold a high level of illiquid assets may be forced to liquidate them at the time of need at extra cost. More than three quarters (77.8%) of the respondents in this study showed, were in favour of the statement that increased ability to meet insurer obligations in settling claims and other expenses through alliance, increased underwriting margins, by at least five percent. Implying that claims settlement should be prioritized when it comes to financial strength of insurance firms. A support of the same (81.7%) is reactivated when respondents showed that alliance improves the earnings before interest and tax by more than 5%.

$$Y = 0.075 + 0.714 * X_1 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(model, 8)}$$

Y= Insurance Firm Performance X_1 – Liquidity

Table 4.21 Correlation and Regression Results on influence of Liquidity and performance of Insurance firms

	R	R Square	F	df1	df2	Constant	Liquidity
Estimate	0.722	0.521	135.037	1	124	0.075	0.714
Sig.	0.00		0.00			0.00	0.00

4.8.2 Firm Size as A Moderator on Liquidity and performance of insurance firms

In addition, the study sought to examine the moderating influence of firm size on the liquidity of insurance firms. Results in Table 4.22 revealed that 90.5% of the changes in insurance firm performance can be explained by liquidity, firm size and moderated liquidity by firm size while the remaining percentage can be explained by other variables excluded in the model.

Table 4.22: Model Summary on Firm Size Moderating influence on Liquidity and Insurance firm performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
.951	0.905	0.902	2.05266

Analysis of variance results in Table 4.23 shows that liquidity, firm size and moderated liquidity had joint significance on insurance firm performance and at least one of the slope coefficients was non-zero (F = 389.501, p value < 0.05).

Table 4.23: ANOVA on Firm Size Moderating influence on Liquidity and Insurance Firm Performance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4923.388	3	1641.129	389.501	.000
Residual	518.251	123	4.213		
Total	**5441.638**	**126**			

Results in Table 4.24 shows that there was a positive and significant relationship between liquidity and insurance firm performance (β = 0.885, t= 14.261, p value <0.05).

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The relationship was significant since the p value was less than 0.05 and the t statistics was greater than + or − 1.96. Therefore, it can be implied that a unit change in liquidity increased insurance firm performance by 0.885 units while holding firm size and moderated liquidity constant.

There was a positive and significant relationship between firm size and insurance firm performance (β= 1.921, t = 4.261 and p value <0.05). This implied that a unit change in firm size while holding liquidity and moderated liquidity constant increased insurance firm performance by 1.921 units.

There firm size had a positive and significant moderation on the influence of liquidity on insurance firm performance among insurance firms in Kenya (β= 0.279, t = 6.595 and p value <0.05). Though the relationship was positive the firm size weakens the positive influence of liquidity on insurance firm performance.

Contrary to the findings of the study, Berger and Bouwman (2009) pointed that there is a negative but insignificant linkage between the insurer's capital and the level of liquidity. This can be explained by the low level of capital that attracts more regulatory requirements while large insurers with enough asset base are able to stand even in times of financial crisis.

$$Y=0.885*X_1+1.921*Z+0.279*(X_1*Z)$$…………………….……………….(Model, 9)

Y= Insurance Firm Performance, X_1= Liquidity, Z= Firm Size

Table 4.24: Regression Coefficients on Firm Size Moderating influence on Liquidity

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
				14.261	0.000
Liquidity	0.885	0.062	1.047		
Firm Size	1.921	0.265	0.858	7.261	0.000
Liquidity *Firm size	.279	0.042	.949	6.595	0.000

4.8.3 Hypotheses 2: Underwriting Capacity and Insurance Firm Performance

Linearity test was tested using a graphical relationship between underwriting capacity and insurance firm performance. Results in Figure 4.4 showed a positive relationship between underwriting capacity and insurance firm performance. An R squared of 0.766 shows that 76.6% of the variation in insurance firm performance can be explained by underwriting capacity.
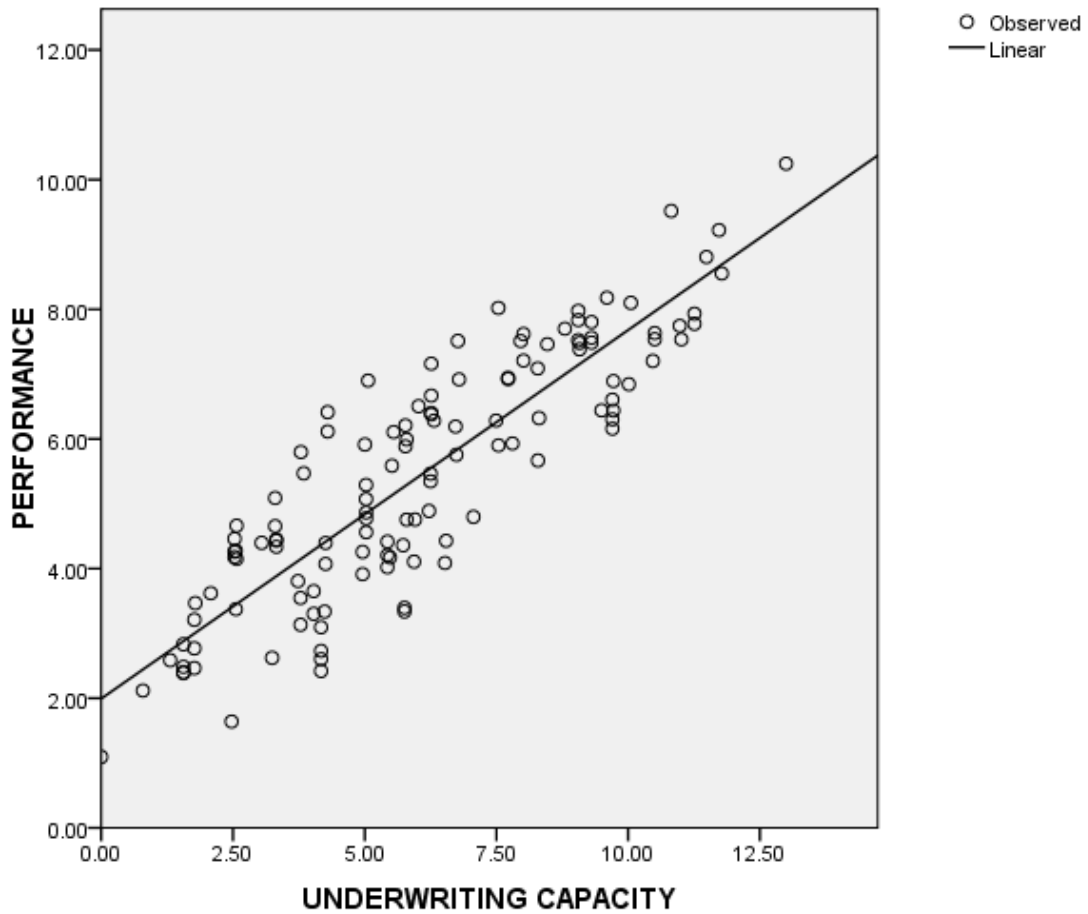
Figure 4.4 Linearity on the influence of Underwriting Capacity on Insurance firm performance

Results in Table 4.25 shows that there was a positive and significant relationship between underwriting capacity and insurance firm performance (rho = 0.875, p value <0.00). This implied that a unit change in underwriting capacity increased insurance firm performance by 87.5%. Table 4.25 Regression analysis revealed that there was a positive and significant relationship between underwriting capacity and insurance firm performance (β=0.569, p value <0.05). This implied that a unit change in underwriting capacity increased insurance firm performance by 0.569 units.

According to Hemrit and Ben-Arab (2012) alliances provide a platform for more underwriting capacity which translates to improved insurance firm performance. This study, therefore echoes findings of Hermit and Arab, and the similarity in these two studies can be explained by the fact these studies used both questionnaire and annual reports to gather data plus the background of the two countries (Kenya and Tunisia) is alike.

$$Y = 1.993 + 0.569 * X_2 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots. \dots \text{(Model, 10)}$$

Y= Insurance Firm Performance X_2 = Underwriting Capacity

Table 4.25 Correlation and Regression Results on influence of Liquidity and Insurance firm performance

	R	R Square	F	df1	df2	Constant	Underwriting capacity
Estimate	0.875	0.766	406.336	1	124	1.993	0.569
Sig.	0.00		0.00			0.00	0.00

4.6.4 Firm Size Moderation on the influence of Underwriting Capacity on Insurance Firm Performance

The model summary for the firm size moderation influence of underwriting capacity and insurance firm performance, R squared of 88.3% shows that underwriting capacity, firm size and firm size* underwriting capacity explains 88.3% of changes in insurance firm performance while the remaining percentage can be explained by other factors excluded in the model.

Table 4.26: Model Summary on Firm Size Moderation on the influence of Underwriting Capacity on Insurance firm performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
.940	0.883	0.88	2.27184

Results in Table 4.27 shows that there was a significant relationship between underwriting capacity, firm size and moderated underwriting capacity since the p value was 0.000 and F statistics = 310.442. Therefore, it can be deduced that at least one of the beta coefficient is none zero.

Table 4.27: ANOVA on Firm Size Moderation on the influence of Underwriting Capacity on Insurance Firm Performance

	Sum of Squares	d.f	Mean Square	F	Sig.
Regression	4806.806	3	1602.269	310.442	.000
Residual	634.833	123	5.161		
Total	**5441.638**	**126**			

There was a positive and significant relationship between underwriting capacity and insurance firm performance (β=0.896, t= 12.111 and p value <0.00). This implied that a unit change in underwriting capacity increased insurance performance by 0.896 while holding firm size and firm size * underwriting capacity constant.

There was a positive and significant relationship between firm size and insurance firm performance (β=1.907, t= 11.831 and p value <0.00). This implied that a unit change in firm size increased insurance firm performance by 1.907 units while holding underwriting capacity and firm size * underwriting capacity constant.

There was a positive and significant relationship between moderated underwriting capacity by firm size and insurance firm performance ($\beta=0.278$, t= 8.119 and p value <0.00). A comparative analysis between slope coefficient of underwriting capacity and moderated underwriting capacity revealed that though there was a positive influence, firm size weakens the positive significant influence of underwriting capacity on insurance performance.

As proposed by Shih *et al.* (2000), firm size does not necessarily imply a positive relationship of underwriting capacity and insurance firm performance, but can be explained by the large firm having enhanced ability to manage risk. This is the reason why the moderation influence of firm size between the relationship of underwriting capacity and insurance firm performance was positive. In fact, for big insurance firms (in terms of assets and number of branches) they are able to set aside divisions to deal with risk per se and ensure regulations are followed to the letter. Lee and Lee (2012) analysis of reinsurance and insurance firm performance in Taiwan insurance industry, state categorically that managers have to balance increasing underwriting/ insolvency risk and chance of increasing profit. The two authors further established that underwriting risk and return on investment influence insurance firm performance significantly.

$$Y= 0.896*X_2 +1.907* Z + 0.278*(X_2 * Z)\ldots\ldots\ldots\ldots..\ldots\ldots(Model , 11)$$

Y= Insurance Firm Performance X_2 = Underwriting Capacity Z = Firm Size

Table 4.28: Regression Coefficients on Firm Size Moderation on the influence of Underwriting Capacity on Insurance Firm Performance

	Unstandardized Coefficients		standardized	t	Sig.
	B	**Std. Error**	**Beta**		
Underwriting Capacity	0.896	0.074	0.92	12.111	0.000
Firm Size	1.907	0.161	0.851	11.831	0.000
Underwriting capacity*Firm size	0.278	0.034	0.823	8.119	0.000

4.8.5 Hypotheses 3: Coinsurance of Large Risk and Insurance Firm Performance

The presentation in Figure 4.5 revealed that there was a positive relationship between coinsurance of large risks and insurance firm performance. Moreover, an R squared of 87.6% shows that 87.6% of changes in insurance firm performance can be explained by coinsurance of large risks.
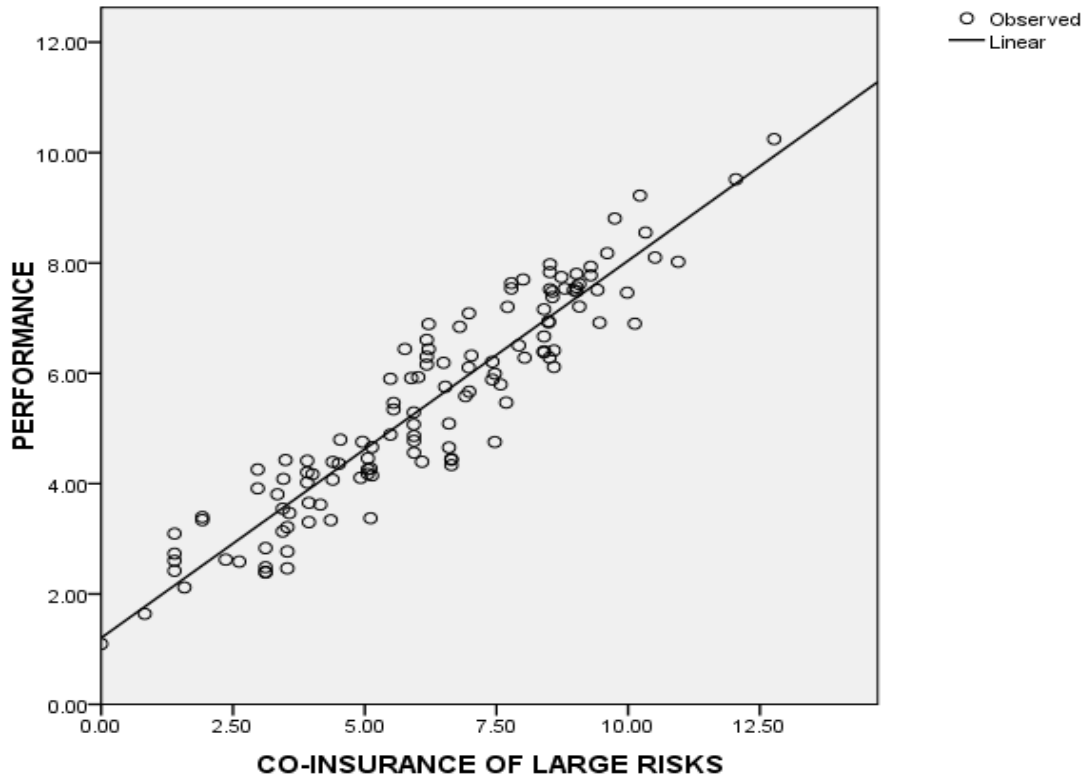
Figure 4.5 Linearity Test on the influence of Coinsurance of Large Risk on Insurance Firm Performance

Correlation analysis revealed positive and significant relationship between coinsurance of large risks and insurance firm performance (rho = 0.936, p value < 0.05). Moreover, regression analysis also revealed positive and significant relationship between coinsurance of large risks and insurance firm performance (β=0.684, p value <0.05). This implied that a unit change in coinsurance of large risks increased insuance firm performance by 0.684 units. These results were in disagreement with Ndekugri *et al.* (2013) who argued that insurance firms holding few well diversified policies will enable firms to cover the claims better as they fall due. In contrast Lydeka and Adomavičius (2007), argued that an introduction of horizontal alliance would enhance best practice which further helps to improve performance.

$$Y = 1.205 + 0.684 \cdot X_3 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{(Model, 12)}$$

Y= Insurance Firm Performance, X_3 = Coinsurance of large risks

Table 4.29: Correlation and Regression Results on the influence of Coinsurance of Large Risk on Insurance firm performance

	R	R Square	F	df 1	df 2	Constant	Coinsurance of Large Risks
Estimates	0.93 6	0.876	876.57 1	1	12 4	1.205	0.684
	0.00						
Sig.	0		0.000			0.000	0.000

4.8.6 Firm Size Moderation on the influence of Coinsurance of Large Risks on Insurance Firm Performance

An R squared of 88.4% shows that 88.4% of the changes in insurance firm changes in insurance firm performance can be explained jointly by coinsurance of large risks, firm size and firm size * co insurance of large risks while the remaining percentage can be explained by other factors excluded in the model.

Table 4.30: Model Summary on Firm Size Moderation on the influence of coinsurance of large Risk on Insurance firm performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
.940	0.884	0.881	2.26548

Analysis of variance in Table 4.31 shows a joint significance of firm size, coinsurance of large risks and firm size * coinsurance of large risks since F statistics = 312.416 and p value <0.05. This implied that at least one of the slope coefficients was none zero.

Table 4.31: ANOVA on Firm Size Moderation on the influence of coinsurance of large risk on Insurance firms performance

	Sum of Squares	d.f	Mean Square	F	Sig.
Regression	4810.351	3	1603.45	312.416	.000
Residual	631.287	123	5.132		
Total	**5441.638**	**126**			

There was a positive and significant relationship between coinsurance of large risks and insurance firms performance (β=0.937, t= 12.075, p value <0.05). This implied that a unit change in coinsurance of large risks while holding firm size and firm size * coinsurance of large risks constant increased insurance firms performance by 0.937 units.

There was a positive and significant relationship between firm size and insurance firm performance (β= 1.74, t= 9.495, p value <0.05). This implied that a unit change in firm size increased insurance firms performance by 1.74 units while holding coinsurance of large risks and moderated coinsurance of large risks by firm size.

There was a positive and significant relationship between moderated coinsurance of large risks by firm size and insurance firms performance (β=0.265, t = 7.032 and p value <0.05). This implied that a unit change in moderated coinsurance of large risks increased insurance firm performance by 0.265 units. Although, firm size had a positive and significant moderating influence on insurance performance it weakened the influence of coinsurance of large risks on insurance firms performance.

Past scholars have found co-insurance to be an ideal situation given the trend of rising insurance premiums-hence the need to reduce premium bills, the need to mitigate the legal costs of litigation and settlement of claims, lower operational expenses owing to shared economies of scale, the need to unravel the technical complexities of large scale projects e.g. design issues in infrastructure, the need to reduce policy excess on premiums paid, reduce exposure to risks posed by moral hazard and adverse selection, and the ability to provide customized covers owing to the use of a few well worded policies (Ndekugri, Daeche & Zhou, 2013).

$$Y = 0.937 * X_3 + 1.74 * Z + 0.265 * (X_3 * Z) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (Model, 13)$$

Y= Insurance firm performance, X₃= Coinsurance of large risks, Z= Firm Size

Table 4.32 Regression Coefficients on Firm Size Moderation on the influence of coinsurance of large risks on Insurance firms Performance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Co-Insurance of Large Risks	0.937	0.078	0.96	12.075	0.00
Firm Size	1.74	0.183	0.777	9.495	0.00
Coinsurance of large risks*Firm size	0.265	0.038	0.787	7.032	0.00

4.8.7 Hypotheses 4: Diversification of Risks and Insurance Firms Performance

Figure 4.7 revealed that there was a positive relationship between diversification of risks and insurance firms performance. Moreover, an R squared of 87.6% shows that 87.6% of changes in insurance firm performance can be explained by diversification of risks while the remaining percentage can be explained by other factors excluded in the model.
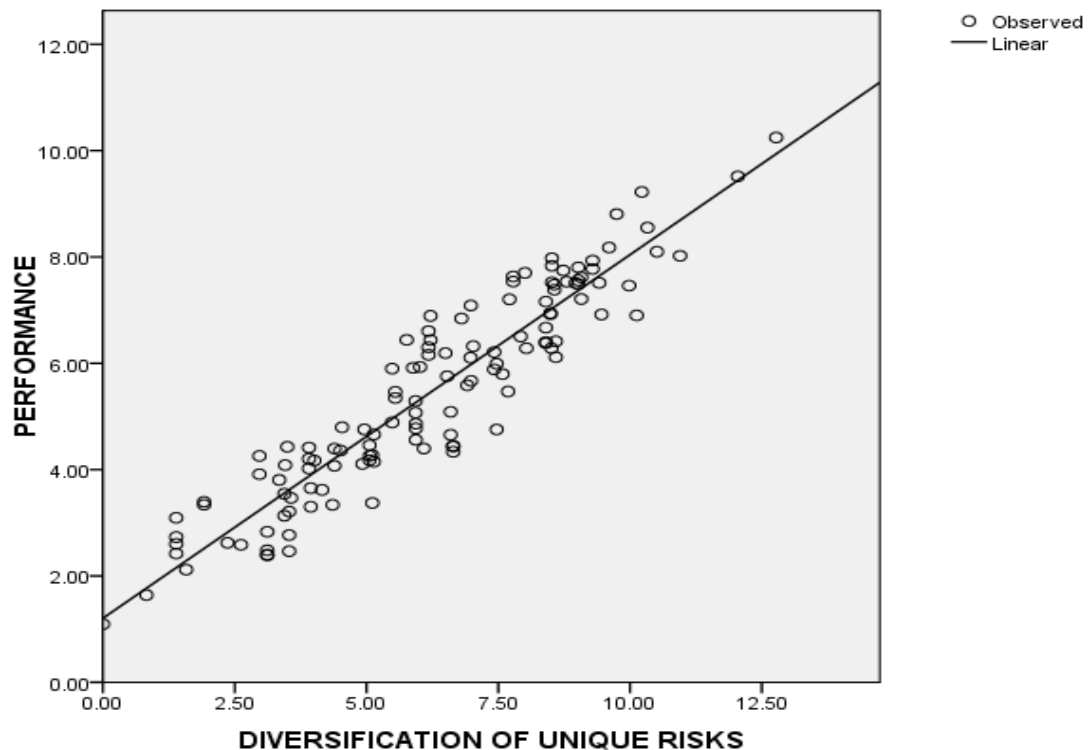
Figure 4.6: Linearity Test on influence on diversification of risks and insurance firms performance

Results in Table 4.33 shows that there was a positive and significant relationship between diversification of risks and insurance firm performance and unit change in diversification of risks increased insurance firm performance by 0.684 units. The findings of the study disapprove earlier findings by Hemrit and Ben-Arab (2012) and Chen *et al.,* (2009) studies found no significant linkage that existed between the

profitability of the firm and operational losses. However, the current study focused specifically on diversification of risks, and it adopted different factors to measure risk diversification.

$$Y = 1.205 + 0.684* X_4 ....\text{(Model, 14)}$$

Y= Insurance Firm Performance X₄= Diversification of risks

Table 4.33: Correlation and Regression on influence on diversification of risks and Insurance firms performance

	R	R Square	F	df1	df2	Constant	Diversification of Risks
Estimate	0.93 6	0.876	876.57 1	1	12 4	1.205	0.684
Sig.	0.00		0.00			0.00	0.00

4.8.8 Firm size Moderation on the influence of diversification of risks on performance of insurance Firms

The model summary revealed that 93.8% of the changes in insurance firms performance can be jointly explained by diversification of risks, firm size and firm size * diversification of risks. The remaining 6.2% variations can be explained by other variables excluded in the model.

Table 4.34: Model Summary firm size moderation on the influence of diversification of risks and Insurance firms performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
.968	0.938	0.936	0.48044

The analysis of variance on table 4.35 indicates that diversification of risks, and firm size * diversification of risks have a joint significance influence on the performance of insurance firms.

Table 4.35: ANOVA on Firm size moderation on the influence of diversification of risks and Insurance firms performance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	424.345	3	141.448	612.796	.000
Residual	28.161	122	0.231		
Total	**452.506**	**125**			

There was a positive and significant relationship between diversification of risks and insurance firm performance (β=0.937, t= 12.075, p value <0.05). This implied that a unit change in diversification of risks while holding firm size and firm size * diversification of risks constant, increased insurance firms performance by 0.943 units.

The research findings revealed, there was a positive and significant relationship between firm size and insurance firms performance (β= 1.74, t= 9.495, p value <0.05). This implied that a unit change in firm size increase insurance firms performance by 1.74 units while holding diversification of risks and moderated diversification of risks by firm size.

Results of the findings indicated that, there was a negative and significant relationship between moderated diversification of risks by firm size and insurance firms performance (β= -0.1, t = -10.045 and p value <0.05). This implied that a unit change in moderated diversification of risks decreases insurance firm performance by 0.1 units. Although, firm size had a positive and significant moderating influence on insurance performance it weakened the influence of diversification of risks on insurance firm performance of insurance firms.

Contrary to this study, Kahloul and Hallara (2010) argues that a huge diversification of risk may be at the expense of the shareholders, if managers find a way out that satisfy reduction in both the and overall risk. Despite Kahloul and Hallara (2010) believe that more diversification could instead of lowering the firm risk results in an increase in the risk, they agreed that a certain level of diversification may yield a positive insurance firms performance. A comparative study of firms in Pakistan, Sindhu, Ul-Haq and Ali (2014) observed that diversified firms tended to be more risky than undiversified firm implying that performance would also be subject to changes.

$Y = 0.858* X_4 + 0.087*Z - 0.1* (X_4* Z)$ ……………………….……..……(Model, 15).

Y= Insurance firm Performance X$_4$= Diversification of risks, Z= Firm Size

Table 4.36: Regression Coefficient on firm size moderation on the influence of diversification of risks and Insurance firm performance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Diversification of Risks	0.858	0.026	1.174	33.418	0.00
firm size	0.087	0.008	0.441	10.803	0.00
Diversification of risks firm size	-0.1	0.01	-0.528	-10.045	0.00

4.8.9 Hypotheses 5: Information Sharing and Insurance Firms Performance

Figure 4.7 revealed that there was a positive relationship between information sharing and insurance firms performance. In addition, an R squared of 87.4% shows that 87.4% of changes in insurance firm performance can be explained by diversification while the remaining percentage can be explained by other factors excluded in the model.
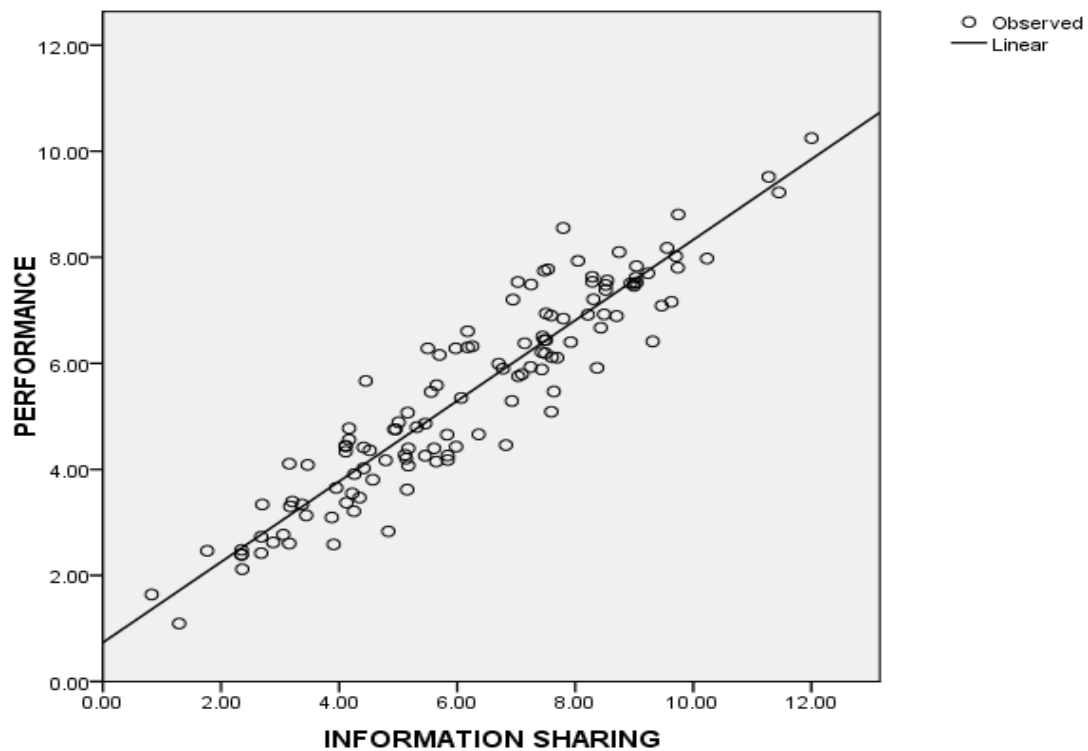
Figure 4.7: Linearity Test on influence of Information Sharing and Insurance firms performance

There was a positive and significant relationship between information sharing and insurance firms performance and unit change information sharing increased insurance firms performance by 0.759 units. The results were in support of same, Luarn *et al.,* (2003) observed that mobilization technology opened firm for opportunities to grow

business in areas that were once restricted to traditional insurance. Technology has enabled numerous products that suits different need to be released in the markets through the real-time information sharing.

$$Y = 0.735 + 0.759*X_5\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(\text{Model }, 16)$$

Y= Insurance Firm Performance X5 = Information Sharing

Table 4.37: Correlation and Regression on influence of Information Sharing and Insurance firms performance

	R	R Square	F	df1	df2	Constant	Information Sharing
Estimate	0.935	0.874	858.133	1	124	0.735	0.759
Sig.	0.00		0.00			0.00	0.00

4.8.10 Firm Size Moderation on the influence of Information Sharing on Insurance Firms Performance

The model summary revealed that 88.6% of the changes in insurance firm performance can be jointly explained by information sharing, firm size and firm size * information sharing. The remaining variations can be explained by other factors excluded in the model.

Table 4.38: Model Summary Firm Size Moderation on the influence of Information Sharing and Insurance firms Performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
.941	0.886	0.883	2.24509

Analysis of variance in Table 4.39 shows that there information sharing, firm size and firm size*information sharing have a joint significance influence on insurance firms performance.

Table 4.39: ANOVA on Firm size moderation on the influence of information sharing and Insurance firm performance

	Sum of Squares	**d.f**	**Mean Square**	**F**	**Sig.**
Regression	4821.667	3	1607.222	318.867	.000
Residual	619.972	123	5.04		
Total	**5441.638**	**126**			

There was a positive and significant relationship between information sharing and insurance firms performance (β=0.943, t= 12.202, p value <0.05). This implied that a unit change in information sharing while holding firm size and firm size * information sharing constant increased insurance firms performance by 0.943 units.

There was a positive and significant relationship between firm size and insurance firms performance (β= 1.731, t= 8.581, p value <0.05). This implied that a unit change in firm size increase insurance firms performance by 1.731 units while holding information sharing and moderated information sharing by firm size.

The results of the findings revealed, there was a negative and significant relationship between moderated information sharing by firm size and insurance firms performance (β=-0.267, t = -6.441 and p value <0.05). This implied that a unit change in moderated information sharing decreases insurance firms performance by 0.267 units.

Empirically, most managers in the current study showed that the reduced moral hazard/adverse selection, due to information sharing among insurers, increase EBIT by at least 5%. This is in line with Yusuf (2010) study, which reported that information

sharing mitigates insurer's exposure to moral hazard and adverse selection. Yusuf sees information sharing as a way of minimizing losses orchestrated by understating risks and exaggerated claims. By lowering losses of the insurer, profits are likely to increase. The use of intermediaries in the insurance industry has further been found to be useful both to the insurer and clients. Specifically, to clients, they help in interpreting the wording used in the policy especially when claims arise.

$$Y = 0.943* X_4 +1.731* Z +0.267* (X_4*Z)…………………………(Model , 17)$$

Y= Insurance firm Performance X5= Information Sharing, Z= Firm Size

Table 4.40: Regression Coefficients on firm size moderation on the influence of information sharing and Insurance firms performance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Information Sharing	0.943	0.077	0.952	12.202	0.000
Firm Size	1.731	0.202	0.773	8.581	0.000
Information sharing*Firm size	-0.267	0.041	-0.77	-6.441	0.000

4.8.11 Overall Regression Model

In the following section both regression analysis and diagnostic tests for regression analysis are carried out.

Regression Model Assumptions

The normality assumption of insurance firm performance was tested using QQ plot and since the variables all lied close to the line the data was normally distributed.
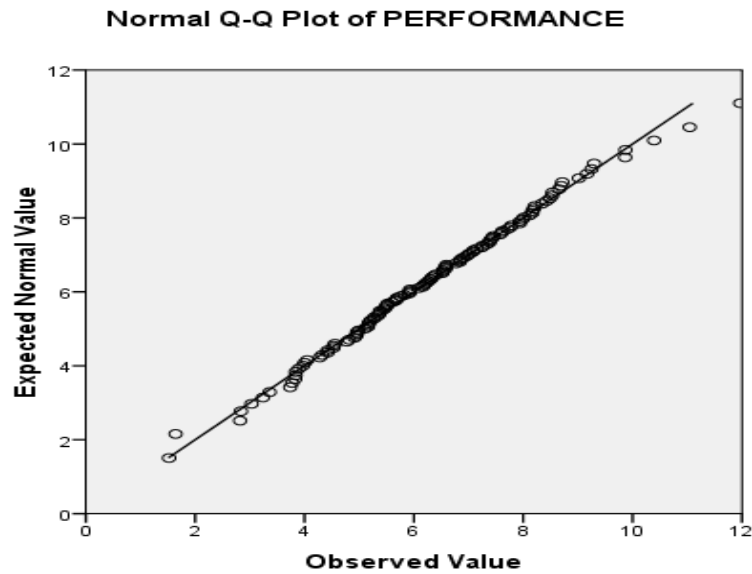
Figure 4.8: QQ Normality Test

Results in Table 4.41 shows that both Tolerance and Variance inflation factors (VIF) were used to test for multicollinearity and since none of the VIF is greater than 5 then there is no multicollinearity among the independent variables. According to Gujrati (2012) if any of the predictor's variables has variance inflation factor greater than 5 then it is highly correlated with other predictors.

Table 4.41: Multicollinearity Test

	Tolerance	VIF
Liquidity	0.552	1.811
Underwriting Capacity	0.479	2.087
Diversification of Risks	0.33	3.03
Information Sharing	0.517	1.934
Co-Insurance of Large Risks	0.235	4.255

Homoscedasticity test was carried out using Breusch-Pagan Test, which hypothesized that the data was homoscedastic against the alternative which stated that the data was not homoscedastic. The data was homoscedastic (the error term had uniform variance) since the test statistics was 3.4981, and a p value of 0.6237.

Table 4.42: Homoscedasticity Test

Test Statistic	Degrees of Freedom	Sig.
3.4981	5	0.6237

Results in Table 4.43 shows that 87.4% of the variation in insurance firm performance can be explained jointly by liquidity, underwriting capacity, diversification of risks, information sharing and co insurance. The remaining variation can be explained by other factors not included in the model. There was no autocorrelation since the Durbin Watson coefficient was 1.731, according to Gujarati (2012) there will be no auto correlation if the coefficient for Durbin Watson ranges in 1.5-2.5.

Table 4.43: Overall Model Summary

R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
0.935	0.874	0.87	2.37343	1.731

Analysis of variance in Table 4.44 shows the overall significance of the model, since the p value is less than 0.05 then the changes in insurance firm performance can be jointly affected by liquidity, underwriting capacity, diversification of risks, information sharing and co insurance and at least one of the slope coefficients is none zero.

Table 4.44: ANOVA for the Overall Model

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4754.391	5	950.878	167.437	0.000
Residual	687.248	121	5.679		
Total	**5441.638**	**126**			

Results in Table 4.45 shows the regression coefficient, in the Table t ratio shows the acceptance region of the null hypothesis. If the T ratio is greater than + or − 1.96 then there is a significant relationship between dependent and independent variable and then null hypothesis should be rejected. Alternatively, the p value (sig) can be used to test the acceptance of the null hypothesis and if the p value is less than 0.05 then we should reject the null hypothesis otherwise we should accept it. The B column will be used to show the nature of the relationship and if it has a positive sign then there is a positive relationship if negative then there is a negative relationship.

Results of the study showed that there was a positive and significant relationship between liquidity and insurance firm performance ($\beta = 0.873$, t=7.291, p value < 0.05). This implied that a unit change in liquidity increased insurance firm performance by 0.873 while holding underwriting capacity, diversification of risks, information sharing and co insurance of large risks constant.

There was a positive and significant relationship between underwriting capacity and insurance firm performance ($\beta = 0.215$, t=2.362, p value < 0.05). This implied that a unit change in underwriting capacity increased insurance firm performance by 0.215 while holding liquidity, diversification of risks, information sharing and co insurance of large risks constant.

The results of the study indicated, there was a positive and significant relationship between diversification of risks and insurance firm performance ($\beta = 0.527$, t=2.90, p value < 0.05). This implied that a unit change in diversification of risks increased insurance firm performance by 0.527 while holding liquidity, underwriting capacity, information sharing and co insurance of large risks constant.

There was a positive and significant relationship between information sharing and insurance firm performance ($\beta = 0.414$, t=2.936, p value < 0.05). This implied that a unit change in information sharing increased insurance firm performance by 0.414 while holding liquidity, underwriting capacity, diversification of risks and co insurance of large risks constant.

Finally, there was a positive and significant relationship between coinsurance of large risks and insurance firm performance ($\beta = 0.513$, t=2.386, p value < 0.05). This implied that a unit change in co insurance of large risks increased insurance firm performance by 0.513 while holding liquidity, underwriting capacity, information sharing and diversification of risks constant.

Overall the sample selected suggested that horizontal alliance, as assessed by liquidity, underwriting capacity, co-insurance of large risks, diversification of risks, and information sharing, has a positive and significant influences on insurance firm's performance as measured in terms of market share and profitability. Statistics have shown that more than three quarter of the alliance variables explain insurance firm performance in the insurance industry. There was also enough evidence to conclude that firm size moderated the relationship between the alliance and insurance firm performance. The current study agreed with Lee (2007) who sought to find the influence of the alliances on the Small and Medium Enterprises (SMEs) in the Taiwan biotech industry. The study established that alliances, especially strategic ones increase the success rate of the SMEs.

Recently, a study in South Korea by Kim (2015) featuring alliances and firm productivity in the industry showed that there is positive influence created by alliances within and outside the industry on insurance firm performance. Though this study measured the alliance on the basis of joint venture, technical alliances, joint marketing and co-production the results were confirmed by the current study. Oum *et al.,* (2004) found strong positive and significant results when firms involved maintained high level cooperation. Moreover, Kuzminykh and Zufan (2014) observed that airline alliances form an increased benefit that is received in terms of the insurance firm performance. In fact, alliance membership is seen as guaranteeing for increase in turnover and value of the total asset (Kuzminykh & Zufan, 2014).

$Y = 0.873*X_1 + 0.215*X_2 + 0.527*X_3 + 0.414*X_4 + 0.513*X_5$

Y= Insurance firm performance X1= Liquidity X2= Diversification of risks, X3= Co insurance of large risks, X5= Diversification of risks X5 = Information Sharing

Table 4.45: Regression Coefficients for the Overall Model

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Liquidity	0.873	0.12	1.033	7.291	0.00
Underwriting Capacity	0.215	0.091	0.22	2.362	0.035
Co-Insurance of Large Risks	0.513	0.215	0.314	2.386	0.034
Diversification of Risks	0.527	0.182	0.54	2.900	0.004
Information Sharing	0.414	0.141	0.418	2.936	0.021

Results in Table 4.46 shows that 91.4% of the variation in insurance firm performance can be accounted for both horizontal alliances and moderated horizontal alliance by firm size.

Table 4.46: Model Summary for Moderated Regression Model

R	R Square	Adjusted R Square	Std. Error of the Estimate
.956	0.914	0.906	2.01216

Results in Table 4.47 shows that there is a joint significance between liquidity, under writing capacity, diversification of risks, information sharing, co insurance of large risk, firm size, liquidity *firm size, under writing capacity*firm size, diversification of risks*firm size, information sharing*firm size, co insurance of large risks*firm size and information sharing*firm size and, $F(11, 115) = 111.728$, p value = 0.00.

Table 4.47: ANOVA for Moderated Regression Model

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4976.026	11	452.366	111.728	0.000
Residual	465.612	115	4.049		
Total	**5441.638**	**126**			

Results in Table 4.48 shows that on overall there was a negative and significant moderating influence between insurance firm performance and moderated liquidity and co insurance of large risks while diversification had a positive significant moderating influence on insurance firm performance. Out of the five variables that particularly focused on horizontal alliances and insurance firms performance, only two showed that firm size had negative influence, with a significant moderating influence on

diversification of risks and information sharing and insurance firms performance. As Srivastava and Ray (2013) proposed that knowledge of the moderating role of firm size as measured by the market share will help strategize on the competitive goal setting that would help beat the market performance.

Findings from the responses indicated an overwhelming agreement that large insurance firms with many employees posted more profits before interest and taxes. This is a clear indication that size as measured by the number of employees, assets and branches have wider scopes in the performance of the firm. However, according to Maunde (1997) study of India firm, size only matters within a given institution framework and regulatory that it operates.

$$Y=0.888*X_1-0.186*X_2+4.229*X_3-3.702*X_4-0.639*X_5+1.873*Z-0.287*X_1*Z+0.018*X_2*Z-1.369*X_3*Z+1.264*X_4*Z+0.2*X_5*Z$$

Y= Insurance firms performance X1= Liquidity X2= Diversification of risks, X3= Co insurance of large risks, X5= Diversification of risks X5 = Information Sharing, Z= Firm Size

Table 4.48: Regression Coefficients for Moderated Regression Model

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Liquidity	0.888	0.263	1.05	3.381	0.001
Underwriting Capacity	-0.186	0.284	-0.191	-0.655	0.514
Co-Insurance of Large Risks	4.229	1.538	4.616	2.75	0.007
Diversification of Risks	-3.702	1.556	-3.793	-2.379	0.019
Information Sharing	-0.639	0.479	-0.645	-1.335	0.185
Firm Size	1.873	0.316	0.837	5.935	0
Liquidity*firm size	-0.287	0.107	-0.974	-2.687	0.008
Underwriting capacity*firm size	0.018	0.098	0.055	0.189	0.851
Coinsurance of large risks*firm size	-1.369	0.525	-4.34	-2.61	0.01
Diversification of risks*firm size	1.264	0.542	3.759	2.334	0.021
Information sharing*firm size	0.2	0.167	0.576	1.194	0.235

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter provides a summary on the findings in this study and outlines the conclusions thereof. The summary of findings is presented as per the research objectives set out in chapter one. Finally, the chapter provides recommendations and possible areas of further research based on the analyzed data related to the objectives of the study.

5.2 Summary of Findings

The general objective of this study was to determine the influence of horizontal alliance on the performance of insurance firms in Kenya. The major concern in this study was that whereas many studies have been done on the influence of horizontal alliance on firm performance, the amount of variance explained in performance has ranged from small to moderate, suggesting that the relationship is dependent on other factors. The current study was hinged from the realization that there was a research problem since empirical and theoretical literature revealed that horizontal alliance has a contribution on insurance firm performance though there is limited documented evidence on their influence. Moreover, most of the studies which have been conducted were limited to use of descriptive analysis whereas the current study used both descriptive and inferential analysis and applied regression and correlation analysis to examine the influence of horizontal alliance on performance of insurance firms Kenya. In addition, the study examined the moderating influence of firm size and the influence of horizontal alliance on insurance firm performance. Data was analyzed using both descriptive and inferential statistics. The former included mean, standard deviation and percentages while the later was composed of correlation to show the strength of the relationship and regression analysis to show the nature of the relationship between horizontal alliances and insurance firm performance. The response validity of the research instrument was tested

using exploratory factor analysis and none of the factors had factor loading less than 0.4 the research was therefore valid.

5.2.1 To determine the influence of liquidity on performance of Insurance firms in Kenya

The results for the first hypothesis indicated that liquidity had a significant influence on performance of insurance firms in Kenya. The model coefficient for correlation and regression were all positive and contributed significantly to insurance firm performance. This implied that if insurance firms adopted a horizontal alliance strategy and matched their liquidity attributes as spelt out in this study they would increase their earnings, thereby improving on their performance. The results of the current study were in support of resource based view theory that stipulates that accumulation of liquidity enhances positive contribution to insurance firm performance. Moreover, descriptive and inferential analysis revealed that liquidity had positive contribution to insurance firm performance since most of the respondents strongly agreed with the influence of all attributes. Significant influence of liquidity on insurance firm performance mirrored the documented empirical review which had reported significant influence of liquidity in on insurance firm performance. The findings of this study concur with suggestions made by Penrose (1959) and (Garnse**y,** Stam, & Heffernan, 2006) the theory of firm growth in international business, that undertaking different activities required different amounts and types of resources. Penrose (1959) viewed growth as resulting from firms' decisions to seize expansion opportunities on their own, even if, to do so, they had to purchase additional resources.

5.2.2 To examine the influence of underwriting capacity on performance of Insurance firms Kenya

The second hypothesis of the study stated that underwriting capacity had no significant influence on insurance firm performance, it was tested using both correlation and regression analysis. Results of the study indicated that underwriting capacity had a

positive and significant influence on insurance firms performance in Kenya. Further correlation analysis revealed that underwriting capacity increased insurance firm performance. In this pursuit the insurance firms should engage in measures geared towards increasing the volumes of transactions in insurance policy sales, improve internal risk management, reduce intense rivalry of market share and employ of experienced technical personnel.

Descriptive analysis showed that majority of the respondents agreed that insurance firms should increase the number of transaction volumes, market share, number of policies, improved internal risk management strategies and increased number of claims paid. This demonstrated the importance of improving firm performance by enhancing the underwriting capacity, especially the five attributes considered in the study. Further, the respondents agreed that prompt settlement of claims increased insurance performance. Ability to settle claims signals positive performance of insurance firms. Although this study contrasts with a previous suggestion by Ng *et al.,* (2013) that increased underwriting capacity does not really guarantee improved performance of firms; the current study found that with enhanced regulation, proper reinsurance arrangements and reciprocal mutual trust, positive results should be expected in the firm's performance.

5.2.3. To establish the influence of the co-insurance of large risks on performance of Insurance firms in Kenya

The third hypothesis of the study stated that coinsurance of large risks had no significant influence on insurance firm performance in Kenya. Based on regression analysis, the findings showed co insurance of large risks had a positive influence on performance of insurance firms. Moreover, correlation analysis revealed that a unit change in co-insurance of large risks increases insurance firm performance. This implied that those insurance firms that have co insured large risks have higher chances of increased firm performance.

Descriptive analysis corroborated the findings that insurance firm have embraced co insurance of large risks. The findings highlighted the influence of increased ability to unravel the technical complexities of large scale projects through co insurance, minimization of operational expenses, reduction on premiums bills and reduced levels of excess on premium paid. This findings of the study revealed that there was a need to change the approach towards underwriting large risks from the traditional arrangements to alliances that help in sharing the risk among insurers/reinsurers. The findings of this study agreed with earlier findings that there is need to protect insurance firms from a possible significant risk that would alter firm's operations from a single claim settlement (El Adaway & Kandil, 2010).

5.2.4 To determine the influence of diversification of risks on performance of Insurance firms in Kenya

The fourth study hypothesis stated that diversification of risks has no significant influence on insurance firm performance. Based on simple linear regression analysis, diversification of risks had a positive and significant influence on performance of insurance firms in Kenya. This implies that diversification of risks increases the chances of superior performance of insurance firms in Kenya. Descriptive analysis indicated that insurance firms should diversify geographically, develop measures to create more liquidity and venture into specific business lines. Moreover, the findings highlighted the significance of reinsurance arrangements so as to minimize the underwriting costs and examination of systematic risks will have a multiplier effect on risk exposure minimization and consequently improve insurance firm performance. The correlation of diversification of risks and performance revealed a significant and positive relationship between the two variables. The study findings confirmed an earlier study that observed that diversification can offer firms many advantages such as synergies, cost sharing, risk reduction or brand improvement (Thomas, 2002).

5.2.5 To determine the influence of information sharing on the performance of Insurance firms in Kenya

The fifth hypothesis stated that information sharing had no significant influence on insurance firm's performance in Kenya. Based on simple regression analysis, information sharing had a positive and significant influence on insurance firm's performance in Kenya.

Descriptive analysis corroborated the findings by revealing that through horizontal alliance strategy, insurance firms can reduce contractual opportunism, enhance commitment among insurance firms due to high levels of trust and reduce levels of moral hazard/ adverse selection. The correlation of information sharing and performance was computed and it established a significant and strong positive relationship between the two variables. The current study findings agreed with Chua & Lim (2000) that rapid flow of information can very quickly change the image of the market, elevating it to unknown heights or turning it off in a short time as it affects the uptake of insurance products. Duysters and Heimeriks (2007) resource based view theory observed that in order to successfully leverage on the synergies offered by alliance partners, firms need information about the skills, competencies and capabilities of potential partners.

5.2.6 To examine the moderating influence of firm size of horizontal alliance on the performance of insurance firms in Kenya

The sixth hypotheses stated that firm's size had no significant moderated influence on horizontal alliance of insurance firms' performance in Kenya. To achieve this; regression analysis was adopted and the change in R squared was examined as well as the change in the slope coefficient after moderation. The regression findings supported the moderating influence of the firm size on the influence of horizontal alliances on insurance firms' performance in Kenya:

Five different sets of output were run to test the moderating influence on liquidity, underwriting capacity, co insurance of large risks, diversification of risks and information sharing. Results of the study showed increased strength of influence of each variable upon moderation, which implied firm size had a significant influence on increased performance of insurance firms which could be attributed to the number of years the firm had been in business and the number of branches each firm had. The study findings agreed with the syncretic paradigm theory that postulates that firms exist in networks characterized by interdependent relationships motivated by a desire to gain collaborative advantages through strategic collaboration (Kanter, 1994).

5.3 Conclusion

This section presents the conclusion of the study, made in line with the objectives and hypotheses. These objectives were developed after reviewing the empirical and theoretical literature and the hypotheses were developed in line with the objectives. The hypotheses were confirmed or not confirmed based on the levels of significance of various diagnostic tests.

5.3.1 Liquidity and Performance of Insurance firms

This study found that liquidity of insurance firms has a significant influence on the performance of insurance firms in Kenya. Though there are minimal reported cases of liquidity issues among insurance firms, there has been tremendous efforts by the insurance regulatory authority to improve liquidity levels amongst insurance firms by setting minimum liquidity ratios. This has been evidenced by regular communication on the annual reports of all insurance firms in Kenya prepared and released by IRA. However, the apparent level of liquidity creation is the responsibility of individual insurance firm which calls for the need to encompass liquidity alliance in a broader spectrum so as to enhance financial strength, insurer obligation, increase premium collection and recapitalization.

5.3.2 Underwriting capacity and Performance of Insurance firms

The findings revealed that underwriting capacity has a significant influence on performance of insurance firms. Whereas underwriting capacity can be reduced by several constraints in terms of reduced transaction volumes, market share, number of policies underwritten, internal risk management in place and the number of claims paid, the study supported the need for alliance to increase the underwriting capacity. There is need to create interlinked operations to increase total volume of transactions, which can be achieved by increasing the number of insurance policies sold. Also firms should endevour to improve their internal risk management to cope with increased policy sales. Expeditious claims settlement can be achieved by adequate gathering of information and timely dissemination of the same.

5.3.3 Co- insurance of large risks and Performance of Insurance firms

The study also found that co-insurance of large risks had significant influence on insurance firm performance. The study showed that those insurance firms which co insured had increased capacity to unravel technical complexities of large scale projects, minimized their operational costs

5.3.4 Diversification of risks and Performance of Insurance firms

Moreover, diversification of large risks was considered to have an influence on insurance firm's performance. The study found that diversification of large risks had a significant influence on performance of insurance firms in Kenya. This may persuade insurance firms to diversify their scope of geographical operations and increase their lines of business. This study found that though diversification of risk influences positively insurance firms performance, caution ought to be exercised when underwriting these risks.

5.3.5 Information Sharing and Performance of Insurance firms

From the findings it can be inferred that there is need for continuous information sharing among insurance firms. The insurance firms ought to share information on contractual opportunism to minimize costs associated with acquisition of contracts. There are some risks in insurance firms which can be attributed to moral hazard and adverse selection insurance firms should share the information amongst themselves to minimize the chances of moral hazard or adverse selection. There are different psychological factors which can enhance the uptake of insurance products; all players ought to share the psychological attributes of mutual reciprocal duties and obligations which can have influence on performance of insurance firms.

5.3.6 Firm Size Moderating influence

The results of the study showed mixed moderating influence, there is need for insurance firms to accumulate the asset size and the management ought to maximize the chances of survival. The larger insurance firms ought to source for more customers to enhance their firm performance. There is need for insurance firms to improve on their ability to unravel the technical complexities of large scale projects and increase their cooperation through the horizontal alliance strategy. This will consequently improve the performance of insurance firms. In contrast both diversification of risks and information sharing were influenced negatively by the firm size. Therefore, the management should evaluate both diversification of risks and information sharing as insurance firm increases in asset size.

Horizontal alliance strategy presents a set of unique inputs and capabilities that can result in performance differentials among insurance firms. These research findings supported tenets of the theories of resource-based view and knowledge based view of the firm that increased performance is dependent on resources utilization and creation of channels for competitive advantage.

5.4 Recommendations

The study recommends the management of insurance firms to review the underlying aim of forming horizontal alliance strategy as a tool of pooling resources through collaborations to secure sustainable competitive advantage. For their international partners, horizontal alliance creates an effective way of entering new foreign markets. Host horizontal alliance partners can provide new markets through their established marketing and distribution systems. A horizontal alliance strategy can also be helpful when market conditions or government policies present market entry barriers. Partnering with a local insurance firm can offer an alternative to entering new markets and help overcome these barriers.

A horizontal alliance strategy can be used to boost a local insurer's performance by sharing combinative strategies through product development, underwriting capacity boosting, and sharing of technical expertise that speeds up processes. They can also use horizontal alliance strategy to enhance their performance by filling in the gaps of their missing skills. Firms sharing complimentary skills can rely on each other's proven expertise instead of spending time and resources to independently develop what has already been achieved. The study may assist top managers of insurance firms to evaluate their firm's performance and determine whether those alliances they are engaged in add value to their top line.

To the policy makers the study recommends that an alliance partner should evaluate its firm's performance based on the study variables from the current study. The study also recommends that IRA assists the insurers in evaluating and monitoring the performance of these horizontal alliance partners. IRA should also come up with policies and procedures that may assist the insurance industry in arranging successful horizontal alliance strategies by laying out competent guidelines.

5.5 Contribution to the body of knowledge

This section presents contribution of this study to the body of knowledge. Despite abundance of knowledge and literature on horizontal alliance there is little or no documented evidence on the study of influence of horizontal alliance strategy on performance of insurance firms in Kenya. The current study is intended to make contributions to the body of knowledge by bridging in the literature and conceptual framework gap in the vital area of horizontal alliance strategy on performance of insurance firms in Kenya. The study adopted investigative research methodology, used deeper data analytical tools, reviewed empirical studies on the subject matter and adopted valid hypotheses that were result oriented to add knowledge in the subject area. Additionally different inferential statistics were used to bring out the difference and add more knowledge. The findings of the current study may contribute to the understanding of horizontal alliance strategy, its relationship with firm size as a moderating variable on performance of insurance firms. The findings of this study can be as well replicated in other sectors. The mere fact that there are are two co- authored peer reviewed articles which have been published by International Journal of Economics, Commerce and Management Volume V, issue 11, of November 2017 it reaffirms the current study contribution to the body knowledge.

5.6 Suggestion for Further Studies

This section discusses area and suggestion for further research. The success s of any research is dependent on the source of data; the current study was dependent on both primary data and secondary data. Primary data was collected from people in managerial level of insurance firms in Kenya. Reliance on management team as single source of data exposed the study to weakness associated with tight schedule of office engagement and the desire to promote confidentiality of all firm details. Future researchers should engage different levels respondents drawn from hierarchical levels of management and adopt different tools for data collection beyond the close ended questionnaires. Other studies can use observations, focus groups studies and interviews.

The current study was limited to five independent variables, liquidity, underwriting capacity, co insurance of large risks, diversification of risks and information sharing. Future researchers may conduct a comparative study, by replicating the current in a big population drawn from commercial banks, savings and credit cooperative societies in Kenya and microfinance banks in Kenya. This would enrich the current findings and increase the chances of their generalization to different sectors of the economy.

Moreover, the study examined the moderating influence of firm size on the influence of horizontal alliances on insurance firms' performance. The results showed significant moderating influence of firm size. Since there are different approaches on measuring of firm size, there is need to explore the moderating influence of independent measures of firm size. However, the current study opened a fertile ground for future research on examination of firm size as moderating influence.

Finally, the cross sectional approach adopted in this study has inhibited the clear conclusion on the causal effect of horizontal alliances on insurance firm performance. Future, scholars should use longitudinal research design to explore the influence of horizontal alliances on insurance firm performance over a period of time. Moreover, future academicians ought to adopt use of structural equation modelling on primary data to explore the influence of horizontal alliances on insurance firms' performance in Kenya.

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APPENDICES

Appendix i: letter of introduction

Ramadhan, Z. W.,

48674-00100, Tel: 0714 952 911

Nairobi, Kenya

4 December 2018

Dear Sir/Madam,

I am a doctoral student undertaking a PhD at the School of Business, Jomo Kenyatta University of Agriculture and Technology. I am currently developing a management research project whose theme is an enquiry on horizontal alliances and firm performance in the insurance firms in Kenya. To this end, I kindly request you to provide the requested information by filling out the attached questionnaire. The information required is purely for academic research purposes only and in no way will your name or that of your institution be implicated in the research findings. Your co-operation and quick response shall be highly appreciated.

Yours Faithfully,

Ramadhan, Z. W.

JKUAT STUDENT

Appendix ii: questionnaire

Section A: Respondent Bio-data

1. Telephone contact

   _____

2. For how long have you been in the insurance firms?

Below 10 years☐;   11-20 years   ☐;   21-30 years☐; above 30 years ☐

3. Level of education:

   Master's degree ☐; Bachelor's Degree   ☐; Diploma   ☐; High school ☐

4.   Indicate the number of branches your firm has

   Below 10☐;   10-49 ☐;   50-249 ☐

5.   Indicate the number of years your firm has been in operation

   Below 10 years☐; 11-20 years☐; 21-30 years☐; 31-40 years☐; above 40 years ☐

6.   Indicate the ownership status of your firm

   Part Private/ Part Public☐;   Fully Private☐

7.   Indicate your firm's market share

   Below 10%☐;   11-20%☐

8.   Indicate below the best representation of your firm's size in terms of number of staff.

   Below 10☐;   10-49☐;   50-249☐;   Above 250☐

9. Indicate your management position.

General manager ☐   Underwriting manager☐ Claims manager☐ Marketing
manager☐

Section B: Liquidity

10. By ticking the box in the table, indicate your level of agreement to which the given
indicators of liquidity influence insurance firm performance on a scale ranging from
"strongly disagree to strongly agree".

**Key:1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree;
5=Strongly agree**

Liquidity Indicators	1	2	3	4	5
Increased ability to meet insurer obligations in settling claims and other expenses through alliance, increases underwriting margins, by at least five percent					
Increased financial strength due to alliance strategy increases earnings before profits and taxes, by at least five percent					
Increased liquidity creation occasioned by the alliance strategy increases insurance firm earnings before profits and taxes, by at least five percent					
Increased gross premium incomes due to the alliance strategy has influenced underwriting margins by at least five percent					
Recapitalization, through the alliance strategy improves firm asset base, thereby increases earnings before profits and taxes, by at least five percent					

Section C: Underwriting Capacity

11. By ticking the box in the table, indicate your level of agreement to which the given indicators of increased underwriting capacity influence insurance firm performance on a scale ranging from "strongly disagree to strongly agree".

Key:

1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly Agree

Increased Underwriting Capacity Indicators	1	2	3	4	5
Improved internal risk management, in a horizontal alliance due to increased underwriting capacity increases insurance firm underwriting margins, by at least five percent					
Increased market share in a horizontal alliance leads to increased earnings before profits and taxes by at least five percent					
Increased number of experienced technical personnel lowers level of operational losses before profits and taxes by at least five percent					
Increased total policy sales transactions in a horizontal alliance strategy increases earnings before profits and taxes, by at least five percent					

Section D: Co-Insurance of Large Risks

12. By ticking the box in the table, indicate your level of agreement to which the given indicators of co-insurance of large risks influence insurance firm performance on a scale ranging from "strongly disagree to strongly agree".

Key:

1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree

Co-Insurance of Large Risks Indicators	1	2	3	4	5
Increased ability to unravel the technical complexities of large scale projects, through co-insurance, increases earnings before profits and taxes, by at least five percent					
Re-insurance arrangements occasioned by co-insurance, increases earnings before profits and taxes, by at least five percent					
Co-operation among alliance partners occasioned by co-insurance increases earnings before profits and taxes, by at least five percent					
Psychological parameters occasioned by co-insurance, increases earnings before profits and taxes, by at least five percent					

Section E: Diversification of Risks

13. By ticking the box in the table, indicate your level of agreement to which the given indicators of diversification of risks influence insurance firm performance on a scale ranging from "strongly disagree to strongly agree".

Key:

1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree

Diversification of Risks Indicators	1	2	3	4	5
Products diversification has a positive influence on earnings before profits and taxes, by at least five percent					
Geographic diversification has a positive influence on earnings before profits and taxes, by at least five percent					
Frequency and severity occasioned by diversification of risks has a positive influence on earnings before profits and taxes, by at least five percent					
Systemic risk, which affects all policies simultaneously has a positive influence on earnings before profits and taxes, by at least five percent					

Section F: Information Sharing

14. By ticking the box in the table, indicate your level of agreement to which the given indicators of information sharing influence insurance firm performance on a scale ranging from "strongly disagree to strongly agree".

Key: *1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree*

Information Sharing Indicators	1	2	3	4	5
Mobilization technology between the alliance partners influencing access to real time information, increases earnings before profits and taxes, by at least five percent					
Policy purchase decision, influenced by information sharing among insurers, increases insurers earnings before profits and taxes, by at least five percent					
Reduced contractual opportunism by policy holders, where they understate their true risk exposure, due to information sharing, increases earnings before profits and taxes for insurers, by at least five percent					
Reduced moral hazard/adverse selection, due to information sharing among insurers, increases earnings before profits and taxes, by at least five percent					

Section G: Firm Size Factors

15. By ticking the box in the table, indicate your level of agreement to which the given firm size indicators influence insurance firm performance on a scale ranging from "strongly disagree to strongly agree".

Key:

1=strongly disagree; 2=Disagree; 3=neither agree nor disagree; 4=Agree; 5=strongly agree

Firm Size Indicator	1	2	3	4	5
Insurance firms with large branch network, have an increased earnings before profits and taxes, by at least five percent					
Insurance firms with many years in business have increased earnings before profits and taxes, by at least five percent					

Section H: Insurance Firm Performance

This section contains financial performance issues as measured by insurance policy sales and market share. You are required to indicate with a (√) if your responses is strongly disagree (1), disagree (2), neither agree nor disagree (3),agree (4) strongly agree (5).

Key: **1=strongly disagree; 2=disagree; 3=neither agree nor disagree; 4=agree; 5=strongly agree**

Statement	1	2	3	4	5
Increased insurance policy sales occasioned by horizontal alliance strategy has increased gross written premiums by at least five percent					
Increased Investment returns occasioned by horizontal alliance strategy has increased earnings before profit and taxes					
Insurance firm ability to manage earned underwriting premiums and losses leading to profitability has been influenced by horizontal alliance strategy					
Increased number of indemnity claims settled occasioned by horizontal alliance strategy influences insurance firm performance					

Appendix iii: Secondary Data Collection Form

Purpose of this form is to collect secondary data regarding insurer profitability over the five-year period from 2012 to 2016 from the income statement.

Years

Type	Value/Ratios	2012	2013	2014	2015	2016
Net Income						
Shareholders Equity						
Return on Equity	$\dfrac{Net\ Income}{Share\ holders\ Equity}$					
Indemnity claims						
Related expenses						
Earned premiums						
Operating expenses						
Written premiums						
Underwriting ratio	$\dfrac{Indemnity\ Claims\ +\ Related\ Expenses}{Earned\ Premiums} + \dfrac{Operating\ Expenses}{Written\ Premiums}$						
Profit After Tax						
Interest Expenses						
Total Assets						
Return on Assets	$\dfrac{Profit\ After\ Tax\ +\ Interest\ Expenses}{Total\ Assets}$					
Operating Income						
Net Revenues						
Operating Margin	$\dfrac{Operating\ Income}{Net\ Revenues}$					

Appendix iv: list of insurance firms in Kenya

	NAMEOF THE FIRM	PHYSICALADDRESS	TEL	FAX	EMAIL
1	AAR Ins Ltd.	WilliamsonHouse,4thNgongAvenue,NgongRoad,Box41766,Nairobi	2895000	2715328	info@aar.co.ke
2	Africa Merchant Ass. Ltd	2ndFloor,Trans-NationalPlaza,MamaNginaStreet,Box 51599-00200,Nairobi	2204000	340022	info@amaco.co.ke
3	AIG Kenya Ins. Ltd	AIGHouse,EdenSquareComplex,ChiromoRoad,Box49460-00100,Nairobi	3676000	3676001	aigkenya@aig.com
4	APA Ins. Ltd	ApolloCenter,OffRingroad,Box30065-0100,Nairobi	2862000	2862200	info@apainsurance.org
5	APA Life Ass. Ltd	ApolloCenter,OffRingroad,Box30389-0100,Nairobi	3641000	3641100	insurance@apollo.co.ke
6	British American Ins. Ltd	Britam Centre ,Mara/RagatiRoad,30375-00100,Nairobi	2833000	2717626	info@britam.co.ke
7	Cannon Ass. Ltd	GatewayBusinessPark,MombasaRoad,Box30216-00100,Nairobi	3966000	829075/828081	info@cannonassurance.com
8	Capex Life Ass. Ltd	5thAvenueOfficeSuites,NgongRoad,Box 12043-00400,Nairobi	2712384/5	2712390	capex@swiftkenya.com
9	CFC Life Ass. Ltd	CFCHouse,MamlakaRoad,Box30364-00100,Nairobi	2866000	2718365	info@cfclife.co.ke
10	CIC General Ins Ltd	CICPlaza,MaraRoad,Box59485-00200,Nairobi	2823000	2823330	cic@cic.co.ke
11	CICLife Ins. Ltd	CICPlaza,MaraRoad,Box59485-00200,Nairobi	2823000	2823330	cic@cic.co.ke
12	Corporate Ins. Ltd	Corporate Place,KiambereRoad,Box34172-00100,Nairobi	2717617	2717775	cic@swiftkenya.com
13	Directline Ass Ltd	17thFloor,HazinaTowers,MonroviaStreet,Box 40863-00100,Nairobi	3250000	2242746	info@directline.co.ke
14	Fidelity Shield ins Ltd	Fisco Center,MuthangariDrive,Box47435-00100,Nairobi	4225000	4445699	info@fidelityshield.com
15	First Ass. Ltd	First Ass.House,GitangaRd,Box30064-00100,Nairobi	2900000	2900200	hoinfo@firstassurance.co.ke
16	GA Ins Ltd	GA Ins. Hse,RalphBuncheRd,Box42166-00100,Nairobi	2711633/4	2714542	insure@gakeya.com
17	Gateway Ins. Ltd	GatewayHouse,GatewayPlace,MilimaniRoad,60656-00200,Nairobi	2713131-7	2713138	info@gateway-insurance.co.ke

18	Geminia Ins Ltd	GeminiaInsurancePlaza,KilimanjaroAvenue,Box 61316-00200,Nairobi	2782000	2782100	info@geminia.co.ke
19	Heritage Ins. Ltd	CFCHouse,MamlakaRoad,Box30390-00100,Nairobi	2783000	2727800	info@heritage.co.ke
20	ICEALION Ins Ltd	ICEACentre,Box30190-00100, Nairobi	2750000	2223803	info@icealion.com
21	ICEALION Life. Ltd	ICEACentre,Box46143-00100, Nairobi	2750000	2223803	info@icealion.com
22	Intra Africa Ass. Ltd	WilliamsonHouse,4thNgongAvenue,Box 43241-00100,Nairobi	2712610	2723288	intra@swiftkenya.com
23	Invesco Ass. Ltd	BishopManguaCentre,Box52964-00200, Nairobi	2605220	248514	info@invescoassurance.co.ke
24	Jubilee Insurance Ltd	JubileeInsuranceHse,MamaNginaStreet,Box30376-00100,Nairobi	3281000	3281150	jic@jubileekenya.com
25	Kenindia Ass. Ltd	KenindiaHouse,LoitaStreet,Box44372-00100,Nairobi	2214439	2218380	kenindia@kenindia.com
`` 26	Kenya Orient Ins. Ltd	CapitalHillTowers,CathedralRoad,Box34530-00100,Nairobi	2728603/4	2728605	info@korient.co.ke
27	Kenyan Alliance	ChesterHouse,KoinangeStreet,Box30170-00100,Nairobi	2216450	2217340/2211158	kai@kenyanalliance.com
28	Madison Ins. Ltd	MadisonInsuranceHouse,UpperHillRd,Box47382-00100,Nairobi	2864000	2723344	madison@madison.co.ke
29	MayfairIns.Ltd	MayfairCentre,RalphBuncheRoad,Box45161-00100,Nairobi	2999000	2999111	info@mayfair.co.ke
30	Saham Ass. Ltd	EcobankTowers,MuindiMbinguStreet,Box20680-00200,Nairobi	2222768	312720	life-kenya@sahamassurance.com
31	Metropolitan Life Ass. Ltd	InternationalLifeHouse,MamaNginaSt.,Box46783-00100,Nairobi	2243126	2243179	info@metropolitan.co.ke
32	Monarch Ins.Ltd	MornachHouse,664OlenguruoneAvene,Box44003-00100,Nairobi	4292000	4292100	info@monarchinsurance.co.ke
33	Occidental Ins Ltd	CrescentBusinessCentre,7thFloor,ParklandsRoad,Box39459-00163,Nairobi	8024149	3750193	enquiries@occidental.co.ke
34	Old Mutual Life	OldMutualBuilding,Mara/HospitalRd,Box30059-00100,Nairobi	2829000	2722415	omken@oldmutualkenya.com
35	Pacis Ins Ltd	CenternaryHse,2ndFloor,OffRingRd,Westlands,Box1870-00200, Nairobi	4247000	4452561	info@paciskenya.com

36	Pan Africa Life Ltd	PanAfricaHouse,KenyattaAvenue,Box44041-00100,Nairobi	2781000	2217675	insurance@pan-africa.com
37	Phoenix of E.A.	AmbankHouse,17thFloor,UniversityWay,Box 30129-00100Nairobi	2229302	2590865	general@phoenix.co.ke
38	Pioneer Ass.	PioneerHouse,MoiAvenue,Box20333-00200,Nairobi	2220814/5	2224985	info@pioneerassurance.co.ke
39	Resolution Ins.	RoshanmerPlace,LenanaRoad,Box4469-00100	2894000	2894210	info@resolution.co.ke
40	Shield Ass.Ltd	5thAvenueOfficeSuites,NgongRoad,Box 25093-00100,Nairobi	2712591	2712597	info@shieldassurance.co.ke
41	Takaful Africa	CICPlaza,MaraRoad,Box1181-00100,Nairobi	2725134/5	2720653	info@takafulafrica.com
42	Tausi Ass. Ltd	TausiCourt,TausiRoad,OffMuthithiRd,Box28889-00100,Nairobi	3746602	3746618	clients@tausiassurance.com
43	Trident Ins.Ltd	CapitalHillTowers,CathedralRoad,Box55651-00200,Nairobi	2721710	2726234	info@trident.co.ke
44	UAP Ins.Ltd	BishopsGardenTowers,BishopsRoad,Box43013-00100,Nairobi	2850000	2719030	uapinsurance@uap-group.com
45	UAP Life Ass.Ltd	BishopsGardenTowers,BishopsRoad,Box43013-00100,Nairobi	2850300	2719030	uapinsurance@uap-group.com
46	Xplico Ins.Ltd	ParkPlace5thFloor,LimuruRoad,Box38106-00623,Nairobi	3642000	4445550	info@explicoinsurance.co.ke

Source: The Association of Kenya Insurers [AKI] (2016), AKI Member Firms 2016.

Retrieved from http://www.akinsure.com/members

Appendix v: factor analysis for all the variables

A. Factor Loadings for Liquidity

	Factor Loadings
Increased ability to meet insurer obligations in settling claims and other expenses through alliance, increases underwriting margins, by at least five percent	0.75
Increased financial strength due to alliance increases earnings before profits and taxes, by at least five percent	0.692
Increased liquidity creation occasioned by alliance increases insurance firm earnings before profits and taxes, by at least five percent	0.639
Increases in gross premium incomes due to alliance has an influence on the underwriting margin by at least five percent	0.629
Recapitalization, thus increasing the firm asset base, through alliance maximizes earnings before profits and taxes, by at least five percent	0.61

B. Factor Loadings for Underwriting Capacity

	Factor Loadings
Improved internal risk management, due to increased underwriting capacity in an alliance, increases insurance firm underwriting margins, by at least five percent	0.998
Increased market share in an alliance leads to increased earnings before profits and taxes by at least five percent	0.998
Increased number of experienced technical personnel lowers level of operational losses before profits and taxes by at least five percent	0.998
Increased total volume of transactions in an alliance increases earnings before profits and taxes, by at least five percent	0.857

C. Factor Loadings for Coinsurance of Large Risks

	Factor Loadings
Increased ability to unravel technical complexities of large scale projects, through co-insurance, increases earnings before profits and taxes, by at least five percent	0.738
Lowered operational expenses, occasioned by co-insurance, leads to increased underwriting margins, by at least five percent	0.738
Reduced premiums bills, due to co-insurance, increases earnings before profits and taxes, by at least five percent	0.704
Lowered legal costs of litigation and settlement of claims, occasioned by co-insurance, increases the underwriting margins, by at least five percent	0.704
	0.622

D. Factor Loadings for *Risk* Diversification

	Factor Loadings
Business line diversification has a positive influence on earnings before profits and taxes, by at least five percent	0.778
Geographic diversification has a positive influence on earnings before profits and taxes, by at least five percent	0.762
Liquidity creation , resulting in illiquid assets occasioned by diversification of risks has a positive influence on earnings before profits and taxes, by at least five percent	0.746
Systemic risk, which affects all policies simultaneously has a positive influence on earnings before profits and taxes, by at least five percent	0.712

E. Factor Loadings for Information Sharing

	Factor Loadings
Mobilization technology between the alliance partners influencing access to real time information, increases earnings before profits and taxes, by at least five percent	0.994
Policy purchase decision, influenced by information sharing among insurers, increases insurers earnings before profits and taxes, by at least five percent	0.994
Reduced contractual opportunism by policy holders, where they understate their true risk exposure, due to information sharing, increases earnings before profits and taxes, by at least five percent	0.856
Reduced moral hazard/adverse selection, due to information sharing among insurers, increases earnings before profits and taxes, by at least five percent	0.818

F. Factors Loadings for Firm Performance

	Factor Loadings
Insurance firms with large branch network, have increased earnings before profits and taxes, by at least five percent	0.762
Insurance firms with many operational years have increased earnings before profits and taxes, by at least five percent	0.746

G. Factors Loadings for Firm Performance

	Factor Loadings
Increased insurance policy sales occasioned by horizontal alliance strategy has increased gross written premiums by at least five percent	0.775
Investment returns occasioned by increased underwriting premiums increases earnings before profits and taxes, by at least five percent	0.736
Insurance firm ability to manage earned underwriting premiums and losses leading to profitability has been influenced by horizontal alliance strategy	0.728
Increased number of indemnity claims settled occasioned by horizontal alliance strategy influences insurance firm performance	0.657