ASSESSMENT OF DETERMINANTS OF INSURANCE COMPANIES' PERFORMANCE IN NIGERIA

BY

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PhD/Admin/20734/2012-2013

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ZARIA, NIGERIA

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BEING THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY (PhD) IN BUSINESS ADMINISTRATION

DEPARTMENT OF BUSINESS ADMINISTRATION,
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DECLARATION

I hereby declare that the work in this thesis "Assessment of Determinants of Insurance Companies' Performance in Nigeria" was performed by me in the Department of Business Administration of Ahmadu Bello University, Zaria under the supervision of Professor Bello Sabo, Dr. B. U. Kurfi and Dr. Hassan Ibrahim. The information derived from the literature has been dully acknowledged in the text and a list of references provided. No part of this work has been presented for another degree or diploma at any institution.

Hamisu IBRAHIM	……	……
PhD/Admin/20734/2012-2013	Signature	Date

CERTIFICATION

This thesis titled "Assessment of Determinants of Insurance Companies' Performance in Nigeria" by Hamisu Ibrahim meets the Regulations governing the Award of Degree of Doctor of Philosophy (PhD) of Business Administration of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This research thesis is dedicated to my parents; Alhaji Ibrahim Muhammad and Hajiya Fatima Ibrahim. This research thesis is also dedicated to my wife and my children.

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ABSTRACT

Insurance companies in Nigerian have undergone reform in 2004 in order to enhance their performance and to make them stronger players nationally and internationally. Besides, in 2014 available statistics revealed that the performance of insurance companies in Nigeria still remains below average. The statistics further indicated that the companies contribute only 0.3% of overall GDP in 2014 in terms of the value of gross premiums written which was very minimal if compared to 16% of South African insurance contribution to GDP. This among others provides a cause for assessing the determinants of insurance companies' performance in Nigeria. In this view, this study assessed the determinants of insurance companies' performance in Nigeria. This study is descriptive in nature and used both primary and secondary sources of data collection. The secondary data for this study were obtained from the annual accounts of the insurance companies for the years 2007 to 2014. This study used Return on Assets, Return on Equity and Earnings per Share as surrogate of performance. In order to achieve the objectives of this study, multiple regression analysis was performed. In an attempt to meet the multiple regression assumptions, robustness tests were also conducted. From the result of test of hypotheses, the ANOVA tables presented the p-values for hypothesis one, two, three and four as p=0.036, p=0.000, p=0.000 and p=0.000 respectively, meaning that there is a statistically significant relationship between the study variables at the 95.0% confidence level since the p-values are less than 5% level of significance. The variables considered most significant are; equity (β=10.23), gross written premium (β=4.91), liquidity (β=0.26), leverage (β=0.04), company's age (β=0.02), solvency (β= -0.89) and assets tangibility (β= -24.03). In the case of variables used to test the hypothesis four and rated according to their contributions are; economic factors (β=0.53), technological factors (β=0.29) and environmental factors (β=0.11). From the findings of the study, equity capital make the strongest contribution which contradicted the general opinion that Gross written premium was the major determinant of insurance companies' performance in Nigeria. It is therefore, recommended that stakeholders in the Nigerian insurance industry in collaboration with their regulatory body; National Insurance Commission should consider further consolidation in the Nigerian insurance industry. This will help their retention capacities to underwrite big businesses and also to deepen insurance across the country. The negative contribution of asset tangibility to the performance of insurance companies in Nigeria validated the fact that insurance companies do not require large volume of fixed assets. What they need is to make sure that they have available funds in the event of loss suffered by anyone under their insurance policy. This will increase the number of insurance policy holders and at the same time will enhance the performance of insurance companies in Nigeria. By doing this, the contribution of the companies to the GDP will increases and continues to grow.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Generally, in developed economies, insurance business contributes significantly to the Gross Domestic Product (GDP). Insurance business is also seen as the backbone of any country's risk management system, since it ensures financial security, serves as an important component in the financial intermediation chain, and offers a ready source of long term capital for infrastructural projects in Nigeria (Augustine & Nwanneka, 2011). Similarly, insurance business plays a vital role in the Nigerian economy through risk bearing, employment of labour, payment of tax, providing vehicle for investors and other financial investment services, (Hamadu & Mojekwu, 2010). Therefore, it is important to ensure that insurance companies' in Nigeria are performing efficiently and significantly.

Insurance companies are the sellers and suppliers of insurance product in Nigeria. According to the Nigerian Insurance Act 2003, there are two broad categories of insurance business in Nigeria: life insurance business; and non-life (General) insurance business. It is permitted under the Nigerian laws for an insurance company to engage in both, life insurance and non-life insurance activities. Furthermore, insurance companies in Nigerian were established to provide insurance cover for life insurance and non-life insurance. The life insurance companies provide cover for individual life, group life, pension and health risks, while non-life insurance activities include those in respect to fire, general accident, motor vehicle, marine and aviation, oil and gas, engineering, bond credit, guarantee and surety ship and miscellaneous insurance.

Moreover, reinsurance companies in Nigeria were established to provide cover for insurance companies in Nigeria. The re-insurers also provide technical security and capacity for the insurance companies and do not supply insurance directly to the consumers (Hamadu & Majekwu, 2010). Moreover, in Nigeria, there are many international as well as indigenous insurance companies. Therefore, the formation of Insurance and re-insurance companies has to be with the approval of the Corporate Affairs Commission under conditions stipulated in Companies and Allied Matters Act, No. 1 of 1990 which was amended 2004. In addition, registration has to be made with the National Insurance Commission (NAICOM).

Globally, the performance of insurance companies is an important indicator of a thriving economy that could lead to an increase in Gross Domestic Product (GDP) of a nation, more specifically non-banking sector like insurance companies (USAID, 2012). Furthermore, the world economy has become more integrated; firms have been facing more and more pressure to disclose their business performance. In this view, regulators all over the world are negotiating and harmonizing global insurance regulations which could lead to greater standardization of insurance policies and promote globalization of the insurance value chain. So, a better understanding of the determinants of insurance companies' performance in Nigeria through an empirical study is of the interest of regulators and other market participants such as financial institutions that are eager to provide financing for insurance companies in order to enhance their performance.

Furthermore, for the past decade, measurement of companies' performance continues to be a critical area of social science research. Many authors paid more attention on modifying

the traditional financial measures in developing models for performance measurement, while others have suggested non-financial measures (Irala, 2007). Moreover, the performance of a company can also be measured in the form of qualitative features like market position, quality of product, and goodwill of the customers (Kruger 2004). Some of the models used in assessing and measuring the performance of organizations include economic profit, residual income, economic value added, balanced score card, activity based costing, cash value added, shareholder value added, total shareholder return, cash flow, and return on investment.

Additionally, some shareholders, regulators and other stakeholders adopt several ways to compare organizations' performance. Lalith (2011) concentrated on variables like turnover, total earnings, profit before interest and taxes, earnings per share, total assets and share price in the measurement of companies' performance. However, the application of these variables varies from one industry to another. Therefore, this study utilizes companies' age, firm size, leverage, asset tangibility, liquidity, growth rate, solvency ratio, premium growth, equity as independent variables, while earnings per share, return on equity and return on assets were used as surrogate for performance. The choice of these variables has been motivated by numerous accounting and finance literatures reviewed in this study. Researchers use these internal environmental variables to measure the corporate performance as observed in the work of Irala (2007).

In the past decade, attention of regulators all over the world has largely concentrated on internal factors that affect performance of business firms. But since the signing of World Trade Organization (WTO) Agreement in Marrakesh City of Morocco in 1994, global

competition and fast-changing of international policies has put great pressure on firms to give more concern on external environmental factors as one of the critical factors in strategic business planning and also as a factor that determine their performance (Azizi & Sidin, 2008). External determinants are the macroeconomic factors that influence the business decision of a company which are not within the control of the management. In the literature of external environmental factors, a number of checklists have been developed as ways of cataloguing the vast number of possible issues that might affect the performance of an industry. The political, economic, social, technological and environmental (PESTE) factors are the external environmental influences and factors that surround and affect business organizations. Kotler (1998) claims that PESTE analysis is a useful strategic tool for understanding market growth or decline, business position, potential and direction for operations. This means that business organizations must interact with those factors that influence their decisions, size, profitability and performance.

In order to get accurate results in this research work and to arrive at valid conclusion, the study implemented consistent methods that help in assessing the determinants of insurance companies' performance in Nigeria. The researcher has chosen the variables of this study among many other variables that determine the firms' performance based on the literature reviewed in this study. The variables used can be measured easily by using the data afforded by Nigerian insurance companies. It is against this background that this study has gained the importance in the corporate finance literature to assess and identify the determinant of performance of insurance companies in Nigeria. Since insurance companies in Nigeria are seen as intermediaries that would help to channel the funds in an appropriate way to enhance social welfare and overall economic development in Nigeria.

1.2 Statement of the Problem

Prior to the 2005 recapitalization of insurance companies in Nigeria, the National Insurance Commission (NAICOM) identified some factors and challenges among others that restricted the Nigerian insurance industry to perform significantly. According to Busayo (2007), these challenges include; under capitalization of existing industry players, dearth of appropriate human capital, poor returns on capital, existence of too many fringe players and poor asset quality. Other challenges include prominence of unethical practices, significant corporate governance issues, insurance premium flight, poor business infrastructural facilities, especially in the area of ICT, lack of Innovation in product development, lack of awareness on the part of consumers on the uses and suitability of insurance products, low contribution to the Gross Domestic Product (GDP) and poor corporate governance structures.

In view of the above problems identified by NAICOM, reform was introduced on 5th September, 2005 and ended on 28th February, 2007. Besides, eight (8) years after completion of the reform; the official report revealed that the performance of insurance companies in Nigeria still remains below average (NAICOM, 2014). To support this, it is important to note the variation of insurance contribution across different economies in the world. For instance, South Africa has a population of 40 million people and has the largest insurance market in Africa which contributed 78.13% of the continent's premium. In addition, the South African insurance industry contributed 16% of the country's Gross Domestic Product (GDP), while Nigeria with more than 170 million people contributed only 2.3% of the continent's total premium and also contributed 0.3% of the overall country's GDP in 2014, in terms of the value of gross premiums written (Daniel, 2015).

Furthermore, despite the rebased GDP of the nation's economy in 2014 which placed Nigeria first in Africa and 26th largest economy in the world, the contributions of the insurance industry to the rebased GDP, however, decreased from 0.7% to 0.6% (Daniel, 2015). In developed economies like USA and Japan, 70% to 90% of the citizens usually possess at least, one insurance policy or the other. On the contrary, in developing countries, insurance service is restricted to few well-off individuals and companies leading to minimal contribution to the economy (Aliero & Shuaibu, 2013). Therefore, this variation raises some important questions among scholars such as what are the determinants of insurance companies' performance in Nigeria and what are the empirical evidences to suggest the determinants of insurance companies' performance in Nigeria?

In order to address these questions, it is important to empirically investigate and identify the determinants of insurance companies' performance in Nigeria in order to make recommendations as a result of the following problems; firstly, in the past years there was a question of available and sufficient data for empirical study that suggest the determinants of insurance companies' performance in Nigeria. Secondly, to the best of our knowledge; studies that assess the determinants of insurance companies' performance in Nigeria are scarce. In addition, even the few studies conducted in Nigeria have some limitations. For instance, such studies conducted in Nigeria have focused their data collection on states or geopolitical zones of the country but they did not look at the entire country. Therefore, little effort was made to justify the performance of insurance companies across the country. Thirdly, concentration of such studies was largely on only life insurance; they did not look at the whole insurance services provided by the Nigerian insurance industry (Life Insurance, General Insurance and Reinsurance).

Based on the foregoing research problems enumerated above, it is important to investigate the factors affecting insurance companies' performance in Nigeria. Although there have been many studies on insurance business (i.e. insurance patronage, Nigerians attitude towards insurance and efficiency of insurance companies) but a study that explains the internal and external environmental factors responsible for negative or positive performance of insurance companies in Nigeria in a holistic manner is still lacking. Therefore, it is against this background that this study intends to assess the determinants of insurance companies' performance in Nigeria as a means to bridge the gap with other scholars.

1.3 Research Questions

In order to address the problem of the study, the following research questions were raised:

i. What are the internal determinants of performance that have significant impact on the return on assets (ROA) of insurance companies in Nigeria?
ii. What are the internal determinants of performance that have significant impact on the return on equity (ROE) of insurance companies in Nigeria?
iii. What are the internal determinants of performance that have significant impact on the earnings per share (EPS) of insurance companies in Nigeria?
iv. What are the external determinants of performance that have significant impact on the performance of insurance companies in Nigeria?
v. What is the multivariable effect of determinants of insurance companies' performance in Nigeria

1.4 Objectives of the Study

The specific objectives of this study are as follows:

i. To assess the internal determinants of performance that affects the return on assets of (ROA) of insurance companies in Nigeria.

ii. To identify the internal determinants of performance that affects the return on equity (ROE) of insurance companies in Nigeria.

iii. To evaluate the internal determinants of performance that affects the earnings per share (EPS) of insurance companies in Nigeria.

iv. To determine the external determinants of performance that affects the performance of insurance companies in Nigeria.

v. To establish multivariable effect of determinant of insurance companies' performance in Nigeria.

1.5 Research Hypotheses

For the purpose of this study the following hypotheses are formulated:

H_{01}: Internal determinants of performance have no significant impact on return on assets (ROA) of insurance companies in Nigeria.

H_{02}: Internal determinants of performance have no significant impact on return on equity (ROE) of insurance companies in Nigeria.

H_{03}: Internal determinants of performance have no significant impact on earnings per share (EPS) of insurance companies in Nigeria.

H_{04}: External determinants of performance have no significant impact on the performance of insurance companies in Nigeria.

1.6 Significance of the Study

In the past years, insurance companies in Nigeria have undergone several reforms and transformations in order to enhance the performance of the insurance companies in Nigeria. But available statistics revealed that the performance of the companies is still below average. It is believed that this study would be informative to stakeholders and prospective investors by clearly revealing the current position of the performance of insurance companies in Nigeria. In addition, stakeholders of the insurance companies in Nigeria would be guided by this information to design a plan that would be used to improve upon the short-comings from reforms and other regulations in insurance business in Nigeria.

The results generated from this study would provide decisions on qualitative and quantitative measures to be used in selecting the real determinants of the performance of insurance companies in Nigeria. This in turn, would allow managers, owners, and outside investors to be better informed about the determinants of the performance of the carriers and how stakeholders may use these determinants to allocate their resources so that the carriers in this sector could become more profitable when alternatives are available to them.

This study was designed to benefit students and other researchers that might venture into future researches in this area. The study provides reference material for them since to the best of our knowledge no empirical research has been conducted on determinants of the performance of insurance companies in Nigeria using this methodological background.

1.7 Scope of the Study

The focus of this study is on listed insurance companies in Nigerian. The listed insurance companies were chosen because of the fact that their financial reports and accounts over the period of study (2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014) were published under strict supervision of NAICOM. In addition, the financial report which is among our sources of data collection is available in the Nigerian Stock Exchange published fact book. Hence, given the above background; in our opinion, the listed insurance companies in Nigeria are the representatives of other insurance companies that were not listed on the floor of Nigerian Stock Exchange market.

Furthermore, this study covered the period after the regulation of insurance business in Nigeria spanning from 2007 to 2014. It is believed that the choice of this period has far reaching implications on the study because of the fact that the period of the last reform (recapitalization) introduced by the Federal Government of Nigeria in collaboration with NAICOM ended on 28th February, 2007. The reform was aimed at strengthening the operating performance of Nigerian insurance companies. Therefore, it is important eight years later to investigate the performance of insurance companies in Nigeria since we have enough data to conduct the study.

Lastly, the study was designed to analyze the relationship between performance and factors that determine the performance of listed insurance companies in Nigeria for the eight year (2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014) using the data obtained from secondary sources. In addition, the study also distributed copies of questionnaires to only

board members and staff of listed insurance companies in Nigeria that were in operation as at 31st December, 2014 in order to obtain responses on recent development.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with review of some related literatures available on the subject matter. It also provides necessary intellectual foundation for building the blocks for this study. This chapter presented the concepts of insurance, performance and performance measurement. The chapter also provides review on determinants of insurance companies' performance, review of empirical studies and theoretical framework related to the topic of study. It is the aim of the researcher to ensure that this review will foster a better understanding of determinants of performance of insurance companies in Nigeria.

2.2 The Concept of Insurance

Scholars all over the world have attempted to define insurance based on their opinion. Dickson (1960) in Oke (2012) opined that insurance is designed to protect the financial wellbeing of an individual, company or other entity in case of unexpected loss. According to him, some forms of insurance are required by law, while others are optional. Agreeing to the terms of an insurance policy and paying the premium create a contract between the insurer and the insured. Adebisi (2006), states that insurance is a complicated issue which involves economic and social devices for the handling of risks to life and property. It is social in nature because it represents the cooperation of various individuals for mutual benefits by working together to reduce the consequence of similar risks. As every new area of risks, and since new insurance package is mounted to take care of more and more areas of risks, the insurance industry flourishes.

Furthermore, Kunreuther, (2010) opined that insurance is an economic institution that allows the transfer of financial risk from an individual to a pooled group of risks by means of a two-party contract. The insured party obtains a specified amount of coverage against an uncertain event for a smaller but certain payment. Similarly, Igbojekwe (2006) defined insurance as the identification of a purchaser of an insurance contract against losses which may arise from the occurrence of specified type of events after the payment of a consideration called premium. Insurance also entails a contract between insurer/assurer and insured/assured whereby one party agrees to undertake the risk of another in exchange for consideration known as premium.

Agbaje (2005) defined insurance as the business of pooling resources together to pay compensation to the insured or assured (i.e. the policy holder) on the happening of a specified event in return for a periodic consideration known as premium. Note that, an insurance contract is usually evidenced by a document called the insurance policy which is usually signed by the insurer or assurer or his agent. Insurance businesses help buyers organize their risk. In exchange for a constant stream of premiums, insurance businesses offer to pay conditioners an addition of cash upon the incident of a predetermined event, such as a natural disaster. More amply put, insurance businesses conceive worth by pooling and redistributing diverse kinds of risk. It does this by collecting liabilities (i.e premiums) from every person that it insures and paying them out to the few that really need them. Insurance businesses theoretically make cash in two ways: Firstly, by ascribing enough premiums to cover the expected payouts that they will have to cover over the life of the principle. Secondly by earning investment comes back ("the float") utilizing the collected premiums.

Linus, (2001) defined insurance as a mechanism for reducing the uncertainty of an individual or organization through the exchange or transfer of specific risks to the insurer who offers a form of economic restoration, albeit partly, to the insured for losses incurred. Insurance is a financial device for transferring or shifting risk from an individual or entity to a large group with the similar risk. This is accomplished through a contract, the insurance policy, with an insurance company. Under this arrangement, the individual, along with other insured, pays premium to the insurance company and the insurance company agrees to pay an amount of money (indemnity) to the individual, if the events described in the policy occur. Insurance is used to indemnify, or restore, a policyholder to a pre-loss condition. The individual accepts a known cost, the premium, in exchange for payment of a large, uncertain financial loss. The insurance company combines, or pools, a large number of similar units and thus can predict losses within reasonable limit.

According to the Nigerian Insurance Act 2003, there are two broad categories of insurance business in Nigeria: Life insurance business; and Non-Life (General) insurance business. It is permitted under the Nigerian laws for an insurance company to engage in both. Therefore, general insurance business can be sub-divided into: fire, accident, oil and gas, contractors' all risks and engineering risks; marine and aviation, Credit insurance, bond and surety ship among others.

The second category of insurance business in Nigeria is life insurance which comprises individual life business, group life insurance and pension business, health insurance business and annuities (Eze & Victor, 2013). According to Black and Skipper, (2000),

there are three main types of life insurance policies in actuarial literature including (a) whole life insurance - which provides cover for lifetime; (b) term life insurance - that provide cover for a limited number of years and, (c) endowment life insurance - which is a term life insurance with a saving component. In general terms, life insurance is a way of dealing with risk and a saving medium for consumers.

The concept behind insurance is that a group of people exposed to similar risk come together and make contributions towards formation of a pool of funds. In case a person actually suffers a loss on account of such risk, he is compensated out of the same pool of funds. Therefore, contribution to the pool is made by a group of people sharing common risks and collected by the insurance companies in the form of premiums. Furthermore, risk has the element of uncertainty. Human life is subject to risk of death, disability as a result of natural or accidental causes, diseases and hazards.

Generally, loss or damage could occur at anytime and losses can be mitigated through insurance. Therefore, any introduction to insurance requires a clear understanding of the concept of risk. In this case, many insurance professionals use the word risk to refer to an insured, a prospect for insurance or to the peril that is being insured. They will say that a particular person or property is a good risk or a bad risk, meaning that they have evaluated the underwriting characteristics of that person or property for a particular insurance policy. This usage differs from the strict insurance definition, which defines risk as the uncertainty regarding financial loss.

2.3 Historical background of Modern Insurance Business in Nigeria

According to Hamadu and Mojekwu (2010), historically, insurance business behavior in Nigeria can be traced to the actions of British merchants in 1874. These British merchants commenced their insurance business activities as agents for insurance companies in Britain, the major area of business being marine insurance. These agents operating in Nigeria packaged and organized insurance covers for imported and exported products. The modern insurance business was introduced into West Africa during the early 20th century by European traders to provide financial and economic protection for their business (Ngwuta, 2007). All underwriting was done at the metropolitan head office while the headquarters office was in Europe. Subsequently, local agents were appointed to represent their interest in the country.

The first branch office in Nigeria was the Royal Exchange Assurance in 1921, later followed by other British companies. There was an initial slow pace of the growth of the insurance industry in the country, particularly between 1921 and 1949. This has been traced to adverse effect of the World War II on trading activities both in United Kingdom and Nigeria. As soon as the war ended, business activities gradually picked up again, and insurance industry in Nigeria began to record remarkable improvement in growth (NICON, 1994). It was not until 1958 that the first indigenous insurance company, the African Insurance Company Limited, was established. At independence, only four (4) of the then twenty five (25) firms in existence were indigenous. Following this development, more insurance companies were established in the country.

According to NAICOM (2011), the first major step at regulating the activities of Insurance business in Nigeria was the report of J.C. Obande Commission of 1961, which resulted in the establishment of Department of Insurance in the Federal Ministry of Trade and which was later transferred to the Ministry of Finance. The report also led to the enactment of Insurance Companies Act 1961, which came into effect on 4th May, 1967. The 1961 Act focused mainly on the activities of direct insurers, made provisions for registration and record keeping.

Furthermore, in 1968, Insurance Companies regulations was put in place to facilitate the implementation of Act No 58 of 1961 which then classified insurance business into different classes for registration purpose and relevant forms for record keeping. The promulgation of the 1968 companies Act requiring the incorporation of indigenous companies also facilitated the establishment of more insurance companies in the country (Kantudu and Tanko, 2008). The 1968 Act stipulated a paltry N50,000 and N100,000 for life insurance companies and composite insurance companies respectively. Indigenous Nigerian insurers such as NICON which was established in 1969 later followed (Agbakoba, 2010).

In addition, the Insurance Decree No 59 of 1976 was enacted putting together the provisions of the various laws. The 1976 Decree among others made the following provision; Condition for authorization of Insurers, Mode of operation, Amalgamation and Transfer, Administration and Enforcement and Penalties. The Insurance Decree, No 59 of 1976 constituted the first All-embracing Law for the regulation and Supervision of Insurance business in Nigeria. By 1976 the number of indigenous companies had far

surpassed that of the foreign companies. Indigenous Nigerian Reinsurance Corporation was then established in 1977 (Agbakoba, 2010).

Moreover, the National Insurance Commission (NAICOM) was established in 1997, with the responsibility of regulating and supervising insurance business in Nigeria. It replaced the previous regulatory organ – the Nigerian Insurance Supervisory Board. Prior to 1992, the Federal Ministry of Finance licensed and supervised insurance companies. Historically, in 1968, concern was given to life Insurance business and it led to the enactment of Decree 40 of 1988 which made provisions among others for Assignment of Life Insurance Policy, named beneficiary on Life Insurance Policy document.

The Agricultural Insurance Scheme was established on 15th of November, 1987. The implementation of the Scheme was initially vested in the Nigerian Agricultural Insurance Company Limited, which was later incorporated in June, 1988 but later turned into a Corporation in 1993 by the enabling Act 37 of 1993. Nigerian Agricultural Insurance Corporation is therefore a wholly-owned Federal Government of Nigeria insurance company set up specifically to provide Agricultural risks insurance cover to Nigerian farmers.

The Pension Reform Act 2004 established the National Pension Commission (PenCom) as the body to regulate, supervise and ensure the effective administration of pension matters in Nigeria. The pension reform programme is governed by the key principles of sustainability, safety and security of benefits, transparency, accountability, equity, flexibility, inclusivity, uniformity and practicability. The recent Pension Act repeals the

Pension Reform Act No.2, 2004 and enacts the Pension Reform Act, 2014 to continue to govern and regulate the administration of Uniform Contributory Pension Scheme for both the public and private sectors in Nigeria.

The recent Act was the Nigerian Insurance Commission Act, 2003, which recapitalized the insurance companies in the country. The Objective of insurance sector reforms is achieving a consolidation that will produce companies capable of meeting claims obligations and compete at the continental and global levels. The Insurance Act 2003 required the insurance companies to increase their capital bases and the companies were given February, 2004 as a compliance month. After the recapitalization period the companies were reduced from 117 to 103. On September 5, 2005 Insurance companies were also required to increase their capital bases and they were also given a maximum period of 18 months to comply with the 2005 recapitalization requirements (From 5th September, 2005 to 28th February, 2007). Following the completion of the 2005/6 recapitalization exercise, which also involved quite a number of consolidations, the number of insurance companies dropped from 103 to 49 as at 31st December, 2007

According to Ngwuta (2007), indigenous Nigerian insurance companies were not profoundly entrepreneurial at the earlier stage because of lack of trained manpower, intense competition from superior foreign companies and lack of adequate and sufficient capital base on the part of indigenous insurance companies, poor infrastructural development and poverty of the Nigerian capital market. Therefore, early indigenous Nigerian insurance companies were owned and operated by regional governments, and the patronage of these insurance companies was mainly from the regional governments that

owned them. The relatively good performance of these regional insurance companies, in addition to the liberalized regime of governments of the day pertaining to regulations in the industry, resulted in the proliferation of insurance companies. This proliferation tasked insurance companies to design and implement efficient and effective marketing strategies, in addition to other strategies, in order to achieve set organizational goals and objectives.

Presently, the Nigerian insurance market consists of the buyers of insurance and the sellers together with the intermediaries (agents) who bring the two together. In addition, there are also the regulators, representative bodies or organizations, consultants and technical advisers which are part and parcel of the market (NAICOM, 2012). The buyers of insurance can be segmented as follows: Individuals and families, Governments (federal, state and local Government) and their agencies, parastatals, multinationals, conglomerates, manufacturing industrial concerns, small and medium scale industries, banking industry, health institutions, tourist and hospitality industries, hotels, transport industry, other corporate bodies, educational institutions, oil and energy industry. For marketing purposes the buyers can further be segmented to suit the strategy of the insurer, or the insurance agent.

The intermediaries are mainly insurance brokers and insurance agents. Nigerian insurance market has been described as brokers market because presently brokers control over 90% of the premium income, leaving less than 10% for insurance agents and even direct marketing channel by insurers (Daniel, 2014). The banking industry on the other hand has become a formidable channel for distributing insurance services not necessarily as intermediaries, but by facilitating a form of direct marketing by insurers.

2.4 Insurance Companies and the Nigerian Economy

The channels through which insurance can positively impact on the economic growth have been identified in many literatures by different contributors. These include mobilization of domestic savings, more efficient management of different risks, mitigation of losses, more efficient allocation of domestic capital and promotion of financial stability (Black & Skipper, 2000). Several studies have attempted to identify the various ways through which insurance could affect economic growth. In the literature, there are three schools of thought on the nature of the relationship between insurance and economic growth. The first school of thought postulates that insurance leads to economic growth while in contrast, the second school of thought argues that economic growth leads to the development of insurance sector (Patrick, 1966). The third school of thought suggests directional relationship between insurance development and economic performance (Haiss & Sumegi, 2008).

The available empirical evidence on the insurance-growth relationship has produced mixed results. Therefore, a study on the causal relationship between insurance and economic growth in Nigeria (1986-2010) by Akinlo (2013), uses Vector Error Correction model (VECM). In his study the co-integration test shows that GDP, premium, inflation and interest rate are co-integrated when GDP is the endogenous variable. The Granger causality test reveals that there is no causality between economic growth and premium in short run while premium, inflation and interest rate Granger cause GDP in the long run which means there is unidirectional causality running from premium, inflation and interest rate to GDP. This means the insurance industry contributes to the economic growth in Nigeria as they provide the necessary long-term funds for investment and while also absolving risks.

Analysis of insurance practice and economic growth in Nigeria was conducted using co-integration test and error correction model by Richard and Victor (2013). The study examines the impact of insurance practice on the growth of Nigerian economy. Insurance premium income, total insurance investment and income of insurance development was used as determinants of insurance practice. The study employed unit root tests, Johansen co-integration test and error correction model in data analysis and to determine the short and long run effect of the model. The study also observed that the insurance premium capital has significantly impacted on economic growth in Nigeria; that the level of total insurance investment has significantly impacted on the economic growth in Nigeria; and that there is causal relationship between insurance sector development and economic growth in Nigeria.

The practice of insurance sector in Nigeria has played a crucial role in the development of the economy and in managing the risks of households and firms through the issuance of insurance policies and mobilizing and transferring funds to the deficit unit for financing real sector investment. Similarly, Oke (2012) and Shittu (2012) opined that insurance companies affect economic growth by providing protection for the insured through the channels of marginal productivity of capital, technological innovation and savings rate.

Furthermore, Philip, (2011) in his research work assesses insurance market activities in Nigeria with the view to determining its impact on economic growth. The period of study was 1970- 2008, the study made use of insurance density measures (premium per capita) as a measure for insurance market activity and real GDP for economic growth. It also employed control variables such as inflation and savings rate as other determinants of

growth. The Johansen co-integration and vector error correction approach was used to estimate the relationship between the variables. All the variables used were stationary at first difference and the result showed a long term relationship existing among the variables. The hallmark finding of this study is that the insurance sector did not reveal any positive and significant effect on economic growth in Nigeria within the period of study. The result shows a low insurance market activity in Nigeria and that Nigerians have not fully embrace the insurance industry despite its importance to the growth of the economy

Moreover, Olalekan, and Taiwo (2013) conducted a study which analyzed both the long and short run relationship between insurance development and economic growth in Nigeria over the period 1986 to 2010. The study used Error Correction Model (ECM), and found that insurance development co-integrated with economic growth in Nigeria. That is there is long run relationship between insurance development and economic growth in Nigeria. The results also shows that physical capital and interest rate both at contemporary and one lagged value has significant positive effect on economic growth in Nigeria while physical capital and inflation has negative long run relationship with economic growth. The results of this study indicated significant contribution of the insurance sector to economic growth in Nigeria.

The insurance industry has continued to play a notable role both in the private and public sectors of the Nigerian economy through risk bearing, employment of labour, payment of tax and other financial investment services. In addition, insurance industry facilitates innovation within an economy by offering to underwrite new risks. Productive initiatives are developed through the coverage of insurance policies. Furthermore, Insurance services

are capable of risk transfer services, increase productivity and investment within the economy.

Different participants in insurance business/ classes of insurance normally pay their consideration/ premium. These insurers mobilize these funds which they utilize to indemnify losses. Some of these funds are usually invested in other variable businesses or companies. For example, the mobilized funds may be used to buy shares of a blue chip company, attracting dividends to the insurance company yearly. Insurance business do stimulate entrepreneur to invest, expand, and diversify their various business. By so doing, they are contributing to the overall industrial, commercial and economic development of the nation.

Recently, several interesting lines of research have begun to map the specific contributions of insurance to the economic growth processes as well as to the well-being of the poor. In particular, several studies have focused on the relationship between insurance and economic growth. However, no consensus has emerged on the impact of insurance development and economic growth. For example, studies such as Arena (2008), Haiss and Sumegi (2008), Mojekwu, Agwuegbo & Olowokudejo (2011), and Pen-Fen, Chin-Chiang, Chin-Feg (2011) found that insurance had positive impact on economic growth. However, study by Webb, Grace, & Skipper, (2005) showed that insurance had no significant positive effect on economic growth. While some studies such as Boon (2005), Arena (2008) and Webb, Grace, & Skipper (2002) found a unidirectional causality running from insurance development to economic growth, Ching, Kogid and Furuoka (2010) reported the obverse. A study by Kugler and Ofoghi (2005) found evidence of bidirectional

relationship between insurance and economic growth while a handful provided evidence of neutrality of insurance and economic growth.

In view of the literatures reviewed above, in our opinion, the role of insurance in the growth and development of our economy is crucial. This is because this sector serves as an important component in the financial intermediation chain, and offers a ready source of long term capital for the infrastructure projects. The role of Insurance to the Nigerian economy is very important, since it facilitates firms' capacity to operate under a greater degree of security without the need to set aside capital in highly liquid contingency funds.

It is important to note that the availability of insurance means that funds can be invested in the various sectors of the economy to stimulate a higher level of economic activity and aid to economic development. The role of insurance sector in mitigating sudden and devastating occurrences thereby stimulating economic growth cannot be over emphasized. Both in developed and developing countries, insurance sector contributes to economic growth of a nation. Since the insurance sector has links to sectors such as industrial, transportation, agriculture, mining, petroleum and trade both locally and internationally, its relevance to general human activities has continued to grow for all ages as all categories of risks increase.

2.5 Concept of Performance and Performance Measurement

The concept of organizational performance is very common in the academic literature although its definition is difficult because of its various meanings. For this reason, there is not a universally accepted definition of this concept. In the '50s, organizational

performance defined as the extent to which organizations, viewed as a social system fulfilled their objectives (Georgopoulos & Tannenbaum, 1957). Thus, performance evaluation during this time was focused on work, people and organizational structure. Later in the 60s and 70s, organizations began to explore new ways to evaluate their performance as such performance was defined as an organization's ability to exploit its environment for accessing and using the limited resources (Yuchtman & Seashore, 1967).

The years 80s and 90s were marked by the realization that the identification of organizational objectives is more complex than initially considered. Managers began to understand that an organization is successful if it accomplishes its goals (effectiveness) using a minimum of resources (efficiency). Thus, organizational theories that followed supported the idea of an organization that achieves its performance objectives based on the constraints imposed by the limited resources (Lusthaus & Adrien, 1998). In this context, profit became one of the many indicators of performance.

Accordingly, there have been various measures of financial performance. For example return on sales reveals how much a company earns in relation to its sales, return on assets determines an organization’s ability to make use of its assets and return on equity reveals what return investors take for their investments. The advantages of financial measures are the easiness of calculation and that definitions are agreed worldwide. Traditionally, the success of a manufacturing system or company has been evaluated by the use of financial measures (Tangen, 2003).

The authors, Lebans & Euske (2006) provide a set of definitions to illustrate the concept of organizational performance:

i. Performance is a set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results (Lebans & Euske 2006 after Kaplan & Norton, 1992).
ii. Performance is dynamic, requiring judgment and interpretation.
iii. Performance may be illustrated by using a causal model that describes how current actions may affect future results.
iv. Performance may be understood differently depending on the person involved in the assessment of the organizational performance (e.g. performance can be understood differently from a person within the organization compared to one from outside).
v. To define the concept of performance is necessary to know its elements characteristic to each area of responsibility.
vi. To report an organization's performance level, it is necessary to quantify the results.

Generally, firms' performance is very essential to management as it is an outcome which has been achieved by an individual or a group of individuals in an organization related to its authority and responsibility in achieving the goal legally, not against the law, and conforming to the morale and ethic. Performance also, is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage.

Literature usually distinguishes between two types of firm performance, financial or economic performance and innovative performance. According to Hagedoorn and Cloodt, 2003 Financial or economic performance is often expressed in terms of growth of sales, turnover, employment, or stock prices, whereas innovative performance is generally expressed in terms of expenditures, patents, percentage of innovative sales, or self-reported innovations Although both types of performance are often inter-related (Damanpour & Evan 1984), literature often uses both types of performance as separate concepts or only focuses on one of the two. (Knoben & Oerlemans, 2006)

It is important also to note that there have been many studies on performance measurement of financial institutions. According to Sahoni (2010), it becomes necessary for business to appreciate as to what creates performance in an organization, since the focus of every organization is so tied to its performance measurement. Lebas and Euske (2002) defined performance as "doing today what will lead to measured value outcomes tomorrow." Therefore, performance measurement then is concerned with measuring this performance. While Business Performance gives the outcome of investment of a company over a given period of time, business performance then, is the means of providing the most effective, recommended and accurate result of company's activities (Rogers and Wright, 1998). On the other hand, Key Performance indicators are the criteria that companies use to assess their performance.

In other words, the corporate performance is a product of the activities and return on investment in a given period. In financial literature, different criteria are used for measuring performance, such as return on assets, Tobin index, investment return, return on

equity, economic value added and earnings per share. In each of these criteria, there are advantages and limitations (Neely, 2002). Company performance is the measurement of what had been achieved by a company which shows good condition for certain period of time. The purpose of measuring the achievement is to obtain useful information related to flow of fund, the use of fund, effectiveness, and efficiency (Lebas, & Euske, 2002). Besides, the information can also motivate the managers to make the best decisions.

There are two main forms of measurement prevalent in the organization: performance measurement and evaluation. Some practitioners use these terms interchangeably. Therefore, evaluation uses quantitative research to determine whether a program achieves its intended results, or outcomes (Neely, 2002). Performance measurement, on the other hand, measures both social impact and organizational performance, though in a less rigorous manner. In recent years performance measurement has gained popularity, especially as shareholders and regulators look for ways to compare organizations' efficiency within the periods. A measure (or metric) is a quantitative value that can be used for purposes of comparison (Simmons 2000).

The key performance indicators are the criteria that a company uses to assess its own performance. No single indicator gives a full picture of the company's success; rather they must be considered in tandem to create a comprehensive overview. Performance Indicators, also known as Success Indicators, help an organization define and measure progress toward organizational goals. Once an organization has analyzed its mission, identified all its stakeholders, and defined its goals, it needs a way to measure progress toward those goals. Therefore, key performance indicators are those measurements (John,

2010). Whatever key performance indicators are selected, they must reflect the organization's goals, they must be key to its success, and they must be quantifiable (measurable). Key performance indicators usually are long-term considerations. The definition of what they are and how they are measured do not change often. The goals for a particular key performance indicator may change as the organization's goals change, or as it gets closer to achieving a goal. They will differ depending on the organization. A business may have as one of its key performance Indicators the percentage of its income that comes from return customers.

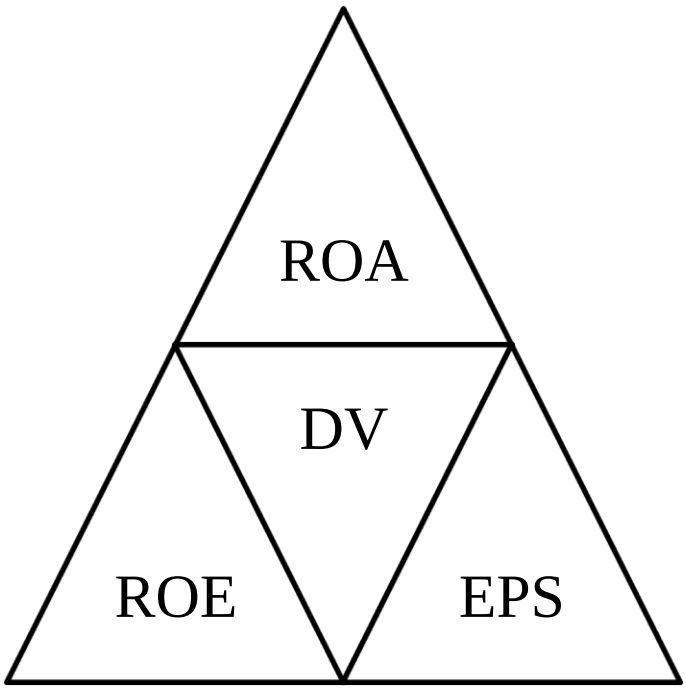
In order to survive and succeed, firms need to set strategic directions, establish goals, execute decisions and monitor their state and behavior as they move towards their goal. Once a firm becomes large enough that a single manager cannot sense the firm's current state and cannot control its behavior alone, the firm must use performance measurement and control systems to replace the eyes and ears of the beleaguered manager. Several dozen vendors provide business performance measurement information technology solutions. These tools have leveraged the latest advancements in data and application integration approaches, web-based charting and reporting, statistical analysis, artificial intelligence, machine learning and expert system technology (Kellen, 2003).

Many studies have shown that traditional accounting ratios play a vital role in predicting the future performance of a firm while others argued that accounting profitability measures are affected by biases and distortions. In this light, the study employs accounting profitability ratios as success indicators in order to assess the determinants of insurance companies' performance in Nigeria after the 2005 recapitalization exercise.

2.6 Review of Literatures on Financial Performance (Dependent Variables)

Most of the studies conducted on organizational performance define it as a dependent variable and seek to identify variables that produce variations in performance. In this study we will utilize ROA, ROE and EPS as surrogate of performance. Therefore, the figure 2.1 below presented the surrogate of performance as dependent variables (DV) of this study.

Figure 2.1: Dependent Variables (DV) of the study



Source: Researchers Design

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. It also gives an idea as to how efficient the management is at using its assets to generate earnings. An increasing trend of ROA indicates that the profitability of the company is improving. Conversely, a decreasing trend means that profitability is deteriorating. In addition, return on equity (ROE) is also useful for evaluating the

profitability of the insurer. It is used to determine whether management has been increasing return for shareholders. Empirical researches on firms' performance use either market-based measures or accounting-based measures to assess firm performance. Klein (1998) uses return on assets (ROA) and (2003) uses return on equity (ROE) as an operating performance indicators. Brown and Caylor (2005) use ROE and ROA as their two operating performance measures. Generally, we can measure the operating performance of a firm through the ROA ratio which shows the amount of earnings that have been generated from invested capital assets (Epps & Cereola 2008).

Financial statements point out different indication of financial performance by financial ratios. Return on assets (ROA) which is sometimes referred to as "return on investment is the best measure of corporate performance and an increase in the ratio of ROA reveals the positive financial performance of relative business and vice versa (Epps & Cereola 2008). Mostly financial analyst use ROA and Tobin's Q to measure the corporate performance. However, increasing trend in ROA and Tobin's Q shows positive financial performance while negativity in such indicators shows low performance of a relative corporation (Bhagat and Bolton, 2008). Stakeholders use different measures of profitability to observe the financial performance of their organization. High asset management incorporates the high corporate performance and it causes a change in the cost of equity (Billett & Michel, 1997).

Generally, shareholders use performance indicators to decide the cost of equity and also use ROA as a proxy to measure the corporate performance (Ely, 1995). Corporate people use return on assets as a proxy to measure the corporate performance and the required rate

of return on investment totally depends upon corporate performance. In addition, there is an inverse relation between return on assets and cost of equity capital, because return on assets incorporates the level of risk about pertinent organization. It can be the best predictor to find the cost of equity (Ely, 1995). Moreover, some equity holders believe, there is no association between performance and equity. So, internal and external cost of equity have insignificant relation with return on assets (ROA) and return on equity (ROE) as a proxy of the financial performance (Brown and Caylor, 2005). By analyzing return on assets, investors realize the utilization of resources which not only show the real picture of the corporation but also point out the uncertainty.

Dogan (2014) analyzes the relation between dividend policies and financial performances of the companies operating in Istanbul Stock Exchange (BIST). The study uses data of 172 companies outside of financial sector for the period of 2008-2011. An empirical analysis was conducted and used multiple regression, T test methods as well as descriptive statistics. The results of analysis showed that dividend payments had influence on companies' performances. Furthermore, there was a positive and statistically meaningful relation between the dividend per share rate (DPS) within groups and market based performance indicator Tobin's q while there was a statistically meaningless relation between accounting based performance indicators ROA and ROE and dividend per share rate. These results are supporting of the quality for the dividend relation developed by Myron Gordon and John Lintner (GL).

Akande (2013) employed Ordinary Least Square (OLS) regression analysis and used panel data to analyze the data collected from the financial statements of ten (10) Nigeria firms

over 20 years (1991 – 2010). ROA, ROE, EPS and dividend per share (DPS) on the one hand and total debt to capital employed (DC) on the other hand, were surrogated for firms' performance and debt financing respectively. From the regression analysis, he found that there is a positive relationship between DC and ROE, EPS, DPS; while a negative relationship exists between DC and ROA.

An empirical investigation was conducted on factors associated with firm performance: evidence from kingdom of Saudi Arabia by Abdullah, Madya, Ahmad & Khaled (2011). The study investigates the relations between firm size, leverage and auditor type and the firm performance of 392 listed companies in the Saudi Stock Exchange (SSE) during 2007-2010. This study identifies two measurements of the firm performance: ROA and ROE. Using the multiple regressions, the results of this study show that the likelihood a firm performance (ROA) is significantly affected by the firm size. On the other hand, leverage and auditor type have no influence on the firm performance. Interestingly, the explanatory power of firm performance (ROA) model is high. Somewhat surprisingly, model (2)'s explanatory power is insignificant indicating the inability of the proposed variables (firm size, leverage and auditor type) in explaining the expected effect on firm performance (ROE).

Mashayekhi and Mohammad (2008) conducted an empirical study and used data from companies listed in the Tehran Stock Exchange (TSE) for the years 2005-2006 to investigate the role of corporate governance indices on firm performance. They use board size, board independence, board leadership and institutional investors on the board as corporate governance indices and EPS, ROA and ROE as firm performance surrogates.

Their regression results show that board size is negatively associated with firm performance. Moreover, the presence of outside directors strengthens the firms' performance. They however, found that there is no relationship between leadership structure and firm performance. Likewise, the presence of institutional investors on the board of directors is not positively associated with firm Performance.

Daniel and Titman (2006), in their study of relationship between past fundamental performance and future returns found that firms with high past fundamental returns such as earnings and earnings per share (EPS) actually outperform weaker firms. The study substantiates the importance of EPS in predicting future performance. Similarly, earnings play a vital role in evaluating the prospects and predicting future performance of the firms as EPS are the portion of the company's profit that is attributed to each individual share of common stock.

Literatures so far reviewed, emphasize that the best measure of a company's performance is its profitability, without it, it cannot grow, and if it doesn't grow, then its stock will trend downward. Furthermore, increasing profit is the best indication that a company can pay dividends and that the share price will trend upward. Creditors will loan money at a cheaper rate to a profitable company than to an unprofitable one; consequently, profitable companies can use leverage to increase stockholders' equity even more.

The common profitability measures compare profits with sales, assets, or equity: net profit margin, return on assets, and return on equity. But two indicators that are the most

commonly used to judge the profitability of a company are ROA and ROE. Furthermore, ROE and ROA are two indicators of the financial performance of a company. There are many indicators to help find a company's financial health as well as its profitability. How profitable a company is, is always relative to its assets. The financial statement of a company is a picture of its financial position and operating performance.

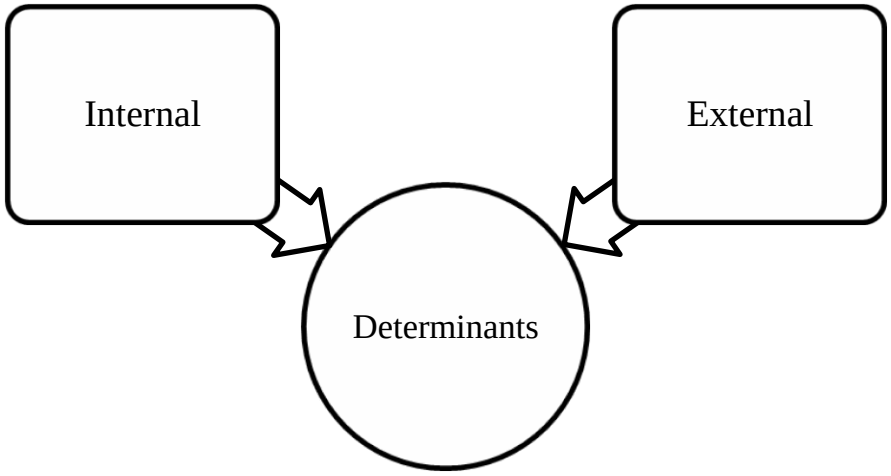
Return on equity and returns on asset are both measures of return. At first glance, these two metrics seem pretty similar. This is because both gauge a company's ability to generate earnings from its investments. But do not exactly represent the same thing. Together, however, they provide a clearer representation of a company's performance and clear picture of management's effectiveness. If ROA is sound and debt levels are reasonable, a strong ROE is a solid signal that managers are doing a good job of generating returns from shareholders' investments. ROE is certainly a "hint" that management is giving shareholders more for their money. On the other hand, if ROA is low or the company is carrying a lot of debt, a high ROE can give investors a false impression about the company's fortunes.

2.7 Review of Literatures on determinants Of Performance (Independent Variables)

In the literature of firms' performance, studies analyzed different aspects of firm performance in particular, certain studies analyzed the outcomes of performance, some studies investigated the determinants of performance while other studies examined the performance process itself (McKelvie & Wiklund, 2010). Therefore, different organizations use varying measures of performance. So, these measures may be quantitative or qualitative. Furthermore, Studies that have considered performance as a

dependent variable have sought to identify variables that produce variations in performance (March & Sutton, 1997). In this study, both financial as well as non-financial measures of performance will be used to assess determinants of listed insurance companies' performance in Nigeria. Generally, determinants of firms' performance include internal and external determinants respectively as presented in figure 2.2 below:

Figure 2.2 Determinants of company's performance



Source: Researchers' design

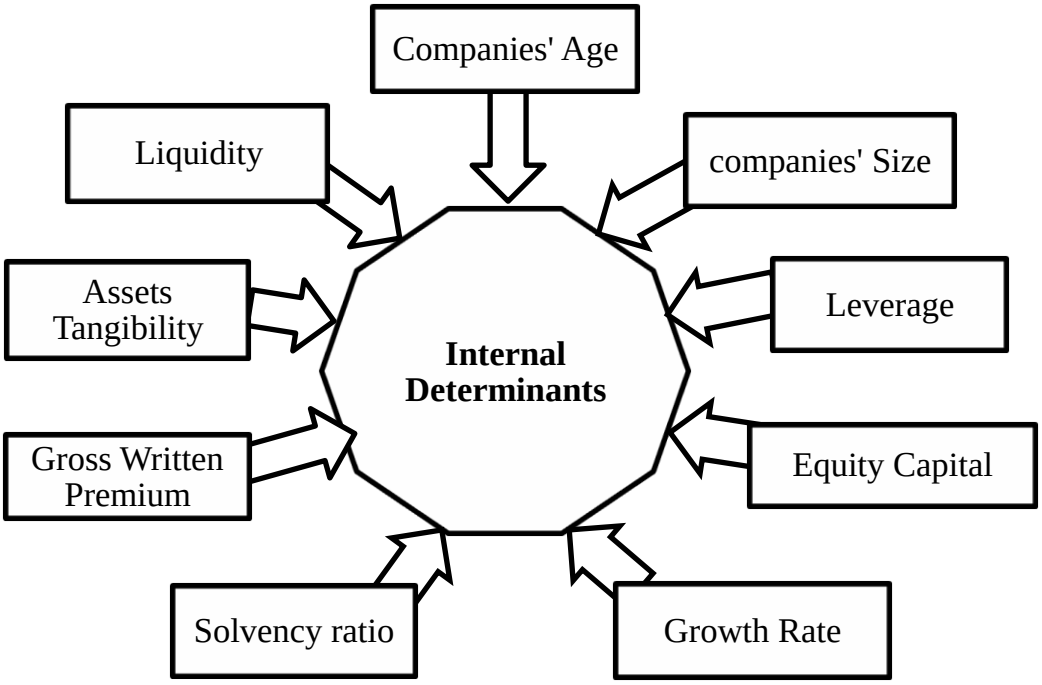
2.7.1 Internal Determinants of the Companies

Among the internal determinants of companies' performance include company's size and ages which are the most frequently cited ones because of divergent opinions and empirical findings regarding certain variables, such as total assets, total sales and total employment, market share, physical output and profits. These proxies are determined by different factors and have their respective pros and cons. Based on Gibrat's (1931) 'law of proportionate effect', which said that a firm growth is independent of a firm size. However, multiple

studies have tested this relationship between firm performance and size of insurance companies and demonstrated different results in developed countries. There are also few that focus on developing countries (Daniel & Tilahun, 2013).

In addition, companies choices with respect to their liability and ownership structure, their capital structure and their payout policy, appear to be the most important ones. Harhoff, Stahl and Woywode, (1998) showed that firms with limited liability display stronger growth than comparable companies under full liability. They argue that limited liability induces firms to pursue risky projects that offer higher returns and, hence, feed growth. Similarly, Downie (1958) claims that growth rates rise with profits as firms retain their earnings. Therefore, the company's internal determinants that will be assessed in this study as determinants of insurance companies' performance in Nigeria include; company's age, company's size, leverage, liquidity, asset tangibility, growth written premium, solvency and firm's growth as presented diagrammatically below:

Figure 2.3 Diagram of Internal determinants



Source: Researchers own design

2.7.1.1 Company Age

The relationship between a company's age and performance has also been investigated by many researchers (Evans, 1987; Farinas and Moreno, 2000; Mata & Portugal, 2004; Bartelsman, Scarpetta, Schivardi, 2005) but early empirical studies on firm dynamics looked at firm size but not firm age. Therefore, the seminal work by Gibrat (1931) led to interest in the firm size distribution (Hart & Prais, 1956; Simon & Bonini, 1958) and also in the relationship between firm size and growth rate (Hall, 1987; Hart & Nicholas, 1996). Later on, however, interest in firm age began to grow, as some studies included age as an explanatory variable in regressions that investigate differences in firm performance.

A number of studies observed firm age in relation to firms' performance but the results have not been clear-cut. An early contribution coined the term liability of newness' to describe how young organizations face higher risks of failure. However, authors have referred to the `liability of adolescence' (Fichman & Levinthal, 1991) to explain why firms face an initial `honeymoon' period in which they are buffered from sudden exit by their initial stock of resources. Still others have identified liabilities of senescence and obsolescence (Barron, West & Hannan, 1994) according to which older firms are expected to face higher exit hazards once other influences (such as firm size) are controlled.

More recently, researchers have begun to take more interest in the role age plays in the performance of surviving firms. Some authors have investigated age effects by focusing specifically on samples of young firms (Calvo, 2006; Garnsey, Stam, & Heffernan, 2006; Stam & Wennberg, 2009). Some researchers have focused on the functional form of the aggregate age distribution, showing that the empirical density is well approximated by an exponential distribution (Coad, 2010a). Other researchers have focused on differences in performance and behaviour across firms of different ages. For instance, it has been suggested that the age of a firm is positively related to its productivity levels (Haltiwanger, Lane & Spletzer, 1999). Brown and Medoff (2003) investigated whether older firms pay higher wages. Bartelsman, Scarpetta and Schivardi (2005) compare the post-entry growth rates of North American and European firms. Bellone, Musso, Nesta, & Quere, (2008) examined how pressures related to market selection (i.e. firm survival) change as firms age. Others have investigated how probability of innovation and productivity growth change across the firm age distribution (Huergo & Jaumandreu, 2004).

Headd and Kirchhoff (2009) write that there is a "dearth of information by business age. Simply stated, industrial organization and small business researchers are deprived of firm-age data." Some researchers have tackled these data limitations by using indirect measures of firm age. Furthermore, empirical literature reviewed has shown that little is known about how firm performance changes with age, presumably because of the paucity of data on firm age. Alex Coada, Segarrab and Teruelb (2011) analyze the firm performance related to firm age between 1998 and 2006 For Spanish manufacturing firms. They found evidence that firms improve with age, because ageing firms are observed to have steadily increase their levels of productivity, higher profits, larger size, lower debt ratios, and higher equity ratios.

Furthermore, older firms are better able to convert sales growth into subsequent growth of profits and productivity. On the other hand, they also found evidence that firm performance deteriorates with age. Older firms have lower expected growth rates of sales, profits and productivity, they have lower profitability levels (when other variables such as size are controlled for), and also that they appear to be less capable to convert employment growth into growth of sales, profits and productivity. The descriptive analysis also shows that young firms are smaller, less productive and less profitable, but in their early years they experience higher growth rates in terms of sales, productivity and profits. Also as firms get older, the weight of external financial sources steadily decreases while the equity ratio steadily becomes a more important financial source. The autocorrelation analysis shows its coefficients remain negative for older firms, suggesting that firm growth remains an erratic process even for experienced firms. The vector autoregression results for different age groups suggest that young firms display a higher positive impact of

employment growth on profits, sales and productivity, while older firms benefit more from sales growth.

2.7.1.2 Company size

The issues of whether larger firms are superior in performance to smaller firms, or vice-versa, and whether older firms are superior in performance to younger firms, or vice-versa, have generated large amounts of theoretical and empirical research in the economics, management and sociology disciplines. Yet, the theoretical postulates and empirical evidence are equivocal, at best, on the impacts that size and age have on firm-level performance, and it is likely that the true nature of the relationship is very environment-specific, and highly dependent on a number of institutional factors which affect the performance of firms.

In many literatures, it has been suggested that company size is positively related to financial performance. The main reasons behind this can be summarized as follows. First, large insurance companies normally have greater capacity for dealing with adverse market fluctuations than small insurance companies. Second, large insurance companies usually, can relatively easily recruit able employees with professional knowledge compared with small insurance companies. Third, large insurance companies have economies of scale in terms of the labor cost, which is the most significant production factor for delivering insurance services. For instance, Browne, Carson, & Hoyt, (2001) has shown empirically that company size is positively related to the financial performance of US life insurance companies. However, company size is not found to be an important determinant of

operational performance in the Bermuda insurance market during the period 1993-1997 (Adams and Buckle, 2000).

Accordingly, Banz (1981), reports that as firms grow up, it becomes more difficult for them to sustain impressive performance. Therefore, smaller firms are more creative, innovative and change more readily to enhance their values. In consistent with these arguments, Haniffa and Hudaib (2006) empirically document a significant negative association between firm size and firm performance. On the other hand, it is indicated that large firms have a direct effect on firm performance. Kumar (2004), reports that large firms are more efficient than small firms because of economies of scale, skilled employees and market power.

In the same line, Ghosh (1998) indicates that larger firms are better performers than smaller firms due to their ability to diversify their risk. Haniffa and Hudaib (2006), report that large firms have more analysts who are concerned about firms' performance and as such they will be under more pressure to perform well. In consistent with this debate, Aljifri and Moustafa (2007) empirically report a positive association between firm size and the firm performance. Thus, the expected sign for the effect of firm size on firm performance in the context of Saudi Arabia is positive. Majumdar (1997) investigated the impact that firm size has on profitability and productivity of a firm. While controlling other variables that can influence firm performance, he found evidence that larger firms are less productive but more profitable.

Lee (2009) examined the role that firm size plays in profitability. He used fixed effect dynamic panel data model and performed analysis on a sample of more than 7000 US publicly-held firms. Results showed that absolute firm size plays an important role in explaining profitability. However, this relationship was nonlinear meaning that gains in profitability reduced for larger firms. Amato and Burson (2007) tested size and profit relationship for firms operating in the financial services sector. The authors examined both linear and cubic form of the relationship. With the linear specification in firm size, the authors revealed negative influence of firm size on its profitability. However, this influence wasn't statistically significant. On the other hand, the authors found evidence of a cubic relationship between ROA and firm size. Using financial and economic data, Ammar (2003) examined the nature of the size-profitability relationship on a sample of electrical contractors for 1985-1996 period. Amato and Wilder (1985) tested size-profitability relationship in linear as well as quadratic form. However, the results of their analysis showed that there is no relationship between firm size and profit rate.

2.7.1.3 Leverage

Traditionally, firms borrow funds to raise cash for operations. The central issue at this point of literature is the influence of financial leverage on corporate performance because leverage allows a financial institution to increase the potential gains or losses on a position or investment beyond what would be possible through a direct investment of its own funds (Pushner, 1995). The findings of the effect of financial leverage on corporate performance has been quite disputed and related in the corporate finance literature. Existing empirical studies have reported ambiguous results on this issue. For example, Jensen and Meckling (1976), Myers (1977), Balakrishnan and Fox (1993), Pushner (1995), Kinsman and

Newman (1999), Majumdar and Chhibber (1999), Gleason, Mathur, & Mathur, (2000) and Simerly and Li (2000) found negative correlations between leverage and corporate performance.

Spence (1985), Jensen (1986), Lubatkin and Chatterjee (1994), Nickell, Nicolitsas & Dryden (1997), Nickell and Nicolitsas (1999) and Ghosh, & Sirmans (2000) found positive correlation leverage and corporate performances. Moreover, some researchers like Harris and Raviv (1991) and Ghosh (1992) argue that there might be a mixed relation and often contradictory discoveries between leverage and corporate performances. Similarly, other publications (Weill 2008 and González 2013) both report that this relationship varies across countries.

On the same manner, Obradovich and Gill (2013) had researched on the Impact of Corporate Governance and Financial Leverage on the Value of American Firms. For this purpose a sample of 333 firms listed on New York Stock Exchange (NYSE) for a period of 3 years from 2009-2011 were selected. The purpose of this study was to find the impact of corporate governance and financial leverage on the value of American firms. Overall outcomes show that larger board size negatively impacted on the value of American firms and CEO duality, audit committee, financial leverage, firm size, return on assets and insider holdings positively impacted on the value of American firms. Margratis and Psillaki (2010) proved also that financial leverage (debt ratio) correlated positively and significantly with firm performance.

Furthermore, Ujah and Brusa (2013) in their research paper "The Effect of Financial Leverage and Cash Flow Volatility on Earnings Management." took 559 US firms from the period 1990 through 2009 and examined the relationship between Leverage, Cash flow Instability and earning management variables. The findings of this paper show that financial leverage and cash flow impacted on the degrees to which firms manage their earnings, and that business cycle and not bond or debt ratings affect firm's earnings management.

Ojo (2012) in his paper titled the effect of financial leverage on corporate performance of some selected companies in Nigeria empirically examined the effect of financial leverage on selected indicators of corporate performance in Nigeria. Leverage therefore, significantly affects corporate performance in Nigeria. The study also examined the impact of leverage on the earnings per share and net assets per share of corporate firms in Nigeria. The econometric findings presented in this study evidenced that leverage shocks (debt/equity ratio) have significant effect on corporate performance especially when the net assets per share was used as an indicator of corporate performance in Nigeria over the period covered by the study.

Moreover, Achchuthan and Jasinthan (2012) had investigated the "influence of financial and operating leverage on the financial performance with special reference to Lanka Orix Leasing Company Plc in Sri-Lanka. Data were collected from Lanka Orix Leasing Company plc in Sri-Lanka (During the year 2001-2010), by taking financial performance as dependent and financial and operating leverage as independent leverage and perform

ratio analysis and inferential statistics. Analyses of the data showed that only operating leverage has a significant impact on the financial performance of LOLC plc in Sri-Lanka.

Akinmulegun (2012) in his study of the Effect of Financial Leverage on Corporate Performance of Some Selected Companies in Nigeria empirically examined the effect of financial leverage on selected indicators of corporate performance in Nigeria. Other detailed objectives were to: Examine the impact of leverage on the earnings per share and net assets per share of corporate firms in Nigeria. Leverage therefore, significantly affects corporate performance in Nigeria.

Weill (2007) investigated the effect of financial leverage on the firm performance in seven European countries. The study summarized that financial leverage related positively and significantly on firm performance in Spain and Italy, whereas negatively and significantly in Germany, France, Belgium and Norway, but insignificantly in Portugal. Eventually, Li Meng, Wang and Zhou (2008) proved that financial leverage related negatively with return on asset, but it is a positive relation with return on equity.

Similarly, Yoon and Jang (2005) presents an empirical insight into the relationship between return on equity (ROE), financial leverage and size of firms in the restaurant industry for the period 1998 to 2003 using OLS regressions and for this purpose they took 62 restaurant firms in US. Research results showed that high leveraged firms were less risky in both market based and accounting-based measures. Meaning that, there was positive relationship between financial leverage and profitability measures.

Dessi and Robertson (2003) found that financial leverage affect positively on the expected performance, where they explained this result to that of low growth firms attempt to depend on the borrowing for utilizing the expected growth opportunities and investing borrowing money at the profitable projects, which increased the firm performance . Hurdle (1973) revealed that financial leverage effects negatively with profitability in accordance with two stage least squares (2SLS) and positively according to ordinary least squares (OLS).

Analyses so far examined provided arguments on the relationship between leverage and corporate performance. A survey of the empirical literature on this debate has shown the lack of consensus on the relationship between leverage and corporate performance. However two elements may explain this divergence. On one hand, this literature used various measures of performance, either basic accounting ratios or more sophisticated measures such as total factor productivity indicators. Consequently, it can be argued that different results in conclusions can come from the differences in performance measurements. This may also be the result of the fact that studies use non-satisfactory performance measurements, as the drawbacks of raw accounting measures to evaluate corporate performance are well-known. On the other hand, all studies were only performed on one country. Consequently, the different conclusions may result from the influence of the institutional framework on the relationship.

2.7.1.4 Liquidity

There are many theoretical reasons for assuming that liquidity directly affects the performance of the company. Thus, a positive relationship between liquidity and

performance would not be far-fetched (Fang, Noe, & Tice, 2009). There are strong theoretical reasons to suggest a relationship between liquidity and firm performance. Because stock shares are the currency which commands both cash flow and control rights, the tradability of this currency plays a central role in the governance, valuation, and performance of firms (Fang, Noe, & Tice, 2009). Thus, a priori, a positive relation between liquidity and performance is quite plausible. However, despite the large number of theoretical papers with predictions related to liquidity's effect on performance, empirical researchers have not made this relation the center of systematic empirical investigation.

Another causal mechanism through which liquidity may discipline management is identified in Edmans (2009), Admati and Pfleiderer (2009), and Palmiter (2002); if management's compensation is tied to current stock prices, then increased liquidity increases the cost of opportunism to managers by facilitating informed selling or''dumping''. The distinguishing characteristic of the causative agency theories is they predict that the effect of liquidity on performance will be related to the extent of the agency conflict within the firm. In contrast to the agency-based causative theories, Subrahmanyam and Sheridan (2001) and Khanna and Ramana (2004) show liquidity can positively affect firm performance even when agency conflicts are absent. In this setting liquidity stimulates the entry of informed investors who make prices more informative to stakeholders.

As shown in Khanna and Ramana (2004), informed traders factor the effect of their trades on managerial behavior into their trading strategy, trading more aggressively, and thus making prices more informative. This feedback effect, improves operating performance and relaxes financial constraints. Both effects increase firm performance. Furthermore,

non-financial stakeholders' decision to stay or go, affects firm cash flows. This is particularly valuable when the relationship between stakeholders and the firm is fragile or there is high cash flow uncertainty with respect to existing projects. This is because positive cascades (success or good news begets more success) will be most valuable in this setting. Feedback theories imply that the effect of liquidity is proportional to the sensitivity of firm operations to the information content of stock prices.

The relation between liquidity and performance has received considerable attention in financial economics from a variety of perspectives. Researchers have considered both the effect of liquidity on performance as well as the dependence of liquidity on performance. The causative theories advance many distinct mechanisms through which liquidity affects performance. Most focus on the effect of liquidity on operating performance and are agency-based causative theories. In contrast to the agency-based causative theories, Subrahmanyam and Titman (2001) show liquidity can positively affect firm cash flows even when agency conflicts are absent.

2.7.1.5 Gross Written Premium

Many empirical results showed that the rapid increase of premium volume is one of the causal factors of insurers' insolvency (Kim & Grace, 1995). Daniel & Tilahun (2013) investigated the firm specific factors that determine insurance companies' performance in Ethiopia and found that the positive coefficient of growth in writing premium indicates a positive relationship between growth in writing premium and performance. However, this positive relationship is found to be statistically insignificant with the p-value of 0.105. The result of the study supports the findings of Chen and Wong (2004). This means that, an

increase in premiums improves the profitability of the core operations of insurers and their overall profitability. This result lends support to the findings of Hrechaniuk, Lutz & Talavera, (2007) about the insurance markets of Spain, Lithuania and Ukraine.

Surprisingly, study of the impact of the gross written premium on investment and income conducted was shown to have negative impact (Burca & Batrinca, 2014). This means that, the more premiums are underwritten, the less income insurance companies derive from their investment activities. Kozak (2011) found a similar relationship about the Polish insurance industry. Empirical findings indicated that rapid growth of premium volume was a major causal factor in insurers' insolvency (Kim & Grace, 1995). According to Chen and Wong (2004) being too obsessed with an increase in Gross premium can lead to self-destruction as other important objectives (such as the effective selection of profitable portfolios to invest in) might be neglected. This is especially true during an economic downturn, such as the Asian, the Euro-zone and 2007/2009 global financial crisis.

2.7.1.6 Asset Tangibility

Many literatures presented a positive relationship between asset tangibility and performance. It is also considered to be the major determinant of a firm's performance. The most common argument offered by Keeley, 1990 concludes that a firm with high fraction of plant and equipment (tangible assets) as the asset base made the debt choice more likely and influences the firm performance. Salamudin, Bakar, Ibrahim, and Hassan (2010) argues that a firm which retains large investments in tangible assets will have smaller costs of financial distress than a firm that relies on intangible assets. The relationship between asset tangibility and firm performance is expected to be positive.

Prior research points to the importance of intangible assets on firm value (Aaker 2001; Chan, Josef & Theodore 2001; Barth 1998; Lehmann 2004). It is natural to expect that firms with greater intangible assets operate more efficiently *ceteris paribus* and thus, have better operating performance. Little is known however about the effect of intangible assets specifically on insurers. Insurer intangible assets would include brand name, personnel, renewable business, and expertise in claim service and underwriting. Given the importance of brand loyalty and reputational effects for a financial security product like insurance, we would expect that insurers with greater franchise value would have a competitive edge.

2.7.1.7 Growth Rate

According to Abdallah, (2014) Literature has provided several explanations for the positive association between growth and firm performance. Growth facilitates all the way to the implied opportunities for investments in new equipment and technologies that upgrade the production process as a whole. He also uses geometric mean of annual percentage increase in assets as a surrogate for growth rate. In addition, Waqas, Imran, Hafiz, Jawad & Zahid, (2013) opined that an asset's growth rate between two price points can be calculated using the following formula: GRT= $ATP_2 – ATP_1 / ATP_1$. In this formula, "GRT" represents the growth rate, "P_1" represents the early price point, and "P_2" represents the later price point.

Similarly, when managing finances from year to year, a company can calculate the growth of its assets both as a raw number and as a percentage. Calculating the growth of assets as a percentage allows you to put your gains in the context of how much money you had to invest to achieve that growth. You can either calculate your total asset growth, or calculate the growth of particular assets to determine which of your assets are performing best.

Study by Waqas, Imran, Hafiz, Jawad & Zahid, (2013) indicates that short term and long term leverage including tax and tangibility have negative correlation with firm's performance while growth, size, risk, liquidity and non-debt tax shield have positive correlation with firm's performance in textile sector of Pakistan.

It is critical to understand how that asset can be expected to behave in the future. A high, stable growth rate is the obvious desired outcome. One way to estimate the expected growth of an asset is to calculate its historical growth rate; over a long period of time. An asset can be expected to behave in a consistent way, so the past growth rate is a good indicator of the future growth rate (Waqas, Imran, Hafiz, Jawad & Zahid, 2013).

2.7.1.8 Solvency Ratio

The solvency of an insurance company corresponds to its ability to pay claims. The Solvency ratio is also a way investors can measure the company's ability to meet its long term obligations. An insurer is insolvent if its assets are not adequate (over indebtedness) or cannot be disposed of in time to pay the claims arising. Solvency margin is one of the indicators of financial soundness. Insurance companies with higher solvency margin are considered to be sound financially. Financially sound insurance companies are better able to attract prospective policyholders and are better able to adhere to the specified underwriting guidelines. By adhering to these guidelines, the insurance companies can expect a better underwriting result. Therefore, it is expected that the relationship between performance and solvency margin would be positive (Burca & Batrinca, 2014).

Solvency ratios measure the company's ability to survive over a long period of time. Current and potential investors will be interested in a company's financing arrangements and also its risk. A company that has borrowed money, obviously has a commitment to pay future interest charges and make capital repayments. This can be a financial burden and possibly increase the risk of insolvency. The solvency margin is calculated as ratio of net assets to net written premiums, and represents a key indicator of the insurer's financial stability. A positive linkage between this variable and the insurer's financial performance is expected, since the insurer's financial stability is an important benchmark to potential customers (Burca & Batrinca, 2014).

The solvency margin is designed to take care of problems that are usually not anticipated. It also provides elbow room to the managers of insurers to rectify problems and take precautionary measures. Ordinarily, an insurance company with the requisite solvency margin is not likely to fail. However, insurance Business is risky in nature and there can be no absolute guarantee. Events such as the terrorist attack can create unexpected liabilities of intense difficulty to anticipate and cover. Solvency is demonstrated by showing that the assets exceed the liabilities. To a large degree the bases are chosen by the company. For supervisory purposes it is not just a question of the assets exceeding the liabilities, the assets must normally exceed the liabilities by a specified margin.

2.7.1.9 Equity Capital

Equity capital is represented by funds that are raised by a business, in exchange for a share of ownership in the company. Equity financing allows a business to obtain funds without incurring debt, or without having to repay a specific amount of money at a particular time.

In 2004 and 2005 new regulatory capital regimes have been developed in Nigeria with regards to banking and insurance industries respectively. Insurance companies were required to increase their capital bases in order to make the companies stronger and competitive nationally and internationally (Solomon, 2007).

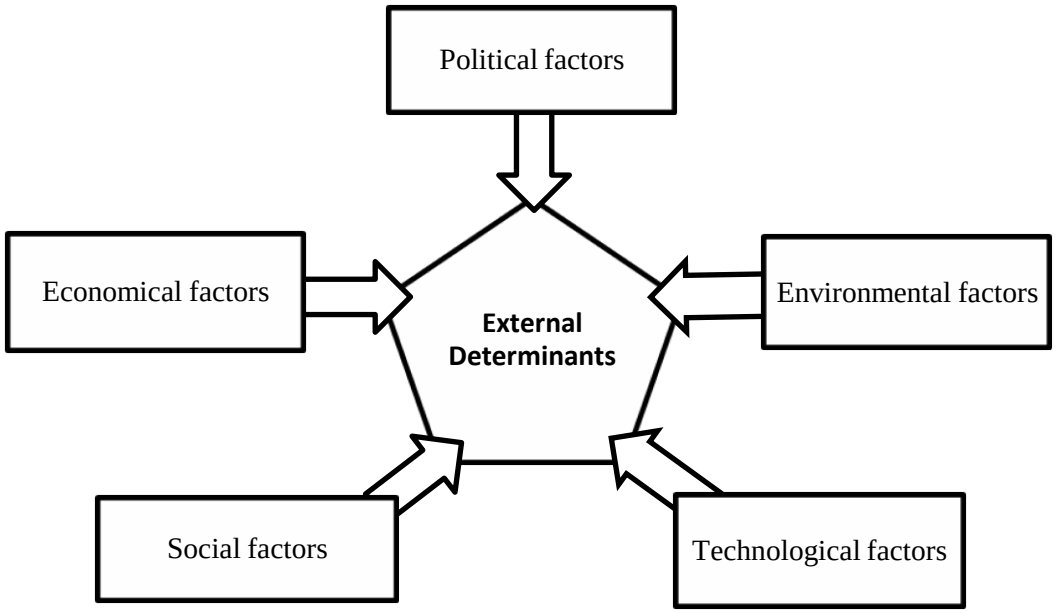
Burca and Batrinca, 2014 measured equity of insurance companies in Romania through decimal logarithm, after the regulatory regime. In Romania, the regulatory regime requires insurance companies to hold adequate equity by properly determining their technical reserves, and minimum capital. Positive connection between their volume and insurers' financial performance was found, given that a greater flow of equity generates a better financial stability and the possibility of expanding the business.

Charumathi, 2012 in his empirical study on the Determinants of Profitability of Indian Life Insurers used 23 Indian life insurers (including 1 public and 22 private) and it used the data pertaining to 3 financial years, viz., 2008-09, 2009-10 and 2010-11. For this purpose, firm specific characteristics such as leverage, size, premium growth, liquidity, underwriting risk and equity capital are regressed against Return on Assets. He used log of equity capital as independent variable and ROE as dependent variable. From the result of his study, negative relationship between the return on assets and equity capital was established. The coefficient for the natural logarithm of equity capital is negative and significant at 10% level.

2.7.2 External Determinants of the Companies' Determinants

These are the macroeconomic factors that influence the business decision of a firm which are not within the control of the management. In the literature of external environmental factors, a number of checklists have been developed as ways of cataloguing the vast number of possible issues that might affect the performance of industry. The PEST analysis is one of them that is merely a framework which categorizes environmental influences as political, economic, social, and technological forces. With regard to exogenous performance factors, Hussels, Ward, & Zurbruegg (2005) identified five external (exogenous) environmental factors which include political, economical, social, technological and environmental factors as presented in figure 2.5 below:

Figure 2.4 External determinants of company's performance



Source: Exogenous diagram

2.7.2.1 Political Factors

Regulators everywhere in the world are at the level of negotiating and harmonizing global insurance regulations; this could lead to greater standardization of products and policies, and promote more globalization of the insurance value chain. Outside the regulatory arena there are several additional political trends for insurers to consider. Specifically, political factors which include areas such as tax policy, labour law, environmental law, trade restrictions, tariffs, and political stability (Bayode & Adebola, 2012). In addition, political factors include goods and service which the government wants to provide or be provided and those that the government does not want to be provided (Abhishek, 2013).

2.7.2.2 Economic Factors

Economic factor takes into consideration all events that affect the internal and external economic environment. The economic factors includes Government infrastructure investment, population growth, new businesses and wealth creation are driving growth in construction, land development, energy and transportation sectors, all of which are creating a greater need for insurance. Furthermore, economic factors include economic growth, interest rates, exchange rates and the inflation rate (Bayode & Adebola, 2012). These factors have major impacts on how businesses operate and make decisions (Abhishek, 2013). For example, interest rates affect a firm's cost of capital and therefore, the extent to which a business grows and expands. Exchange rates affect the costs of exporting goods and the supply and price of imported goods in an economy.

2.7.2.3 Social Factors

The social factor takes into consideration all events that affect the market and community socially. Thus, the advantages and disadvantages to the people of the area in which the project is taking place also need to be considered. Practically, new and ongoing social trends will shake up traditional business patterns in the insurance industry, resulting in an increase in consumer power. Customers (consumers and businesses) are increasingly demanding simplicity, transparency and speed in their transactions with businesses, including insurance agents/advisers and carriers. The relentless march of online and mobile technology is continuing to fuel this change in customer expectations. Social factors include the cultural aspects and include health consciousness, population growth rate, age distribution, career attitudes and emphasis on safety (Bayode & Adebola, 2012). Trends in social factors affect the demand for a company's products and how that company operates. For example, an ageing population may imply a smaller and less-willing workforce (thus increasing the cost of labor). Furthermore, companies may change various management strategies to adapt to these social trends (such as recruiting older workers).

2.7.2.4 Technological Factors

This factor takes into consideration all events that affect technology. Since technology often becomes outdated within a few months after it is launched, it is important to consider this. As the insurance industry reaps productivity gains from the most recent wave of automation, new technologies are significantly enhancing operational efficiencies, increasing revenue opportunities and improving the customer experience (Abhishek, 2013). Advances in Artificial Intelligence techniques, such as machine learning, natural language understanding and intelligent decision-making will allow insurers to advance

from using technology for transaction processing to decision-making. Today, analytical techniques are used for making ad hoc decisions using structured data (Bayode & Adebola, 2012).

In addition, Commercial insurers are already using connected devices and sensors to develop risk and loss management and improve productivity, but we also envision life and health insurers using them as well. Technological factors include ecological and environmental aspects, such as research and development activity, automation, technology incentives and the rate of technological change. They can determine barriers to entry, minimum efficient production level and influence outsourcing decisions. Furthermore, technological shifts can affect costs, quality, and lead to innovation.

2.7.2.5 Environmental Factors

According to Bayode & Adebola (2012), environmental factors take into consideration ecological and environmental aspects that could be either economic or social in nature. The severity and frequency of catastrophic events, both natural and man-made have been increasing over the years. In addition to catastrophic events, insurers must also consider man-made degradation of the environment. Increasing energy consumption and associated atmospheric pollution will directly impact carriers' risk exposure (Abhishek, 2013).

Furthermore, life and health insurers will need to closely monitor trends in atmospheric pollution in order to accurately assess risk in different regions. Environmental measures will help mitigate the most serious consequences. Renewable energy sources are projected to account for 23% of electricity by 2036. Environmental factors include weather, climate,

and climate change, which may especially affect industries such as tourism, farming, and insurance (Bayode & Adebola, 2012). Furthermore, growing awareness to climate change is affecting how companies operate and the products they offer--it is both creating new markets and diminishing or destroying existing ones.

2.7.3 Review of Studies on PESTE Analysis

Kotler (1998) claims that PEST analysis is a useful strategic tool for understanding market growth or decline, business position, potential and direction for operations. Additionally, there are several extension or additional environmental factors from the traditional PEST, such as PESTE with addition of environment and PESTEL with addition environment and legal factors (Ward & Rivani, 2005; Mohamed et al., 2010).

The use of PEST analysis can be seen as effective for business and strategic planning, marketing planning, business and product development and research reports. PEST also ensures that company's performance is aligned positively with the powerful forces of change that are affecting business environment (Porter, 1985). PEST analysis of any industry sector investigates the important factors that are affecting the industry and influencing the companies' performance in that sector (Abdullah & Robaka, 2011)

Furthermore, PEST analysis is the macro-environment factor that directly or indirectly influences firms' performance in any industry (Ward & Rivani, 2005; Mohamed, Ann, & Yee, 2010). PEST is a strategic tool to essess the external environment that provide a 'satellite view' of an industry, and a key instrument for monitoring trends in the external environment (Ward & Rivani, 2005; Pulaj & Kume, 2013). In a simpler explanation, the

PEST factors are uncontrollable factors that can either be an opportunity or a threat to firms and industries. PEST becomes more useful and relevant, not only for larger and more complex business or proposition, but even for a very small local business. A PEST analysis can still throw up one or two very significant issues that might otherwise be missed.

According to Peng and Nunes (2007), the use of PEST analysis is for two purposes. The first purpose is to analyze the position or condition of a particular firm or industry, and the second purpose is to analyze the feasibility of general management solutions in a business environment. David (2011) described PEST analysis as a tool to identify and evaluate external opportunities and threats, enables organizations to develop clear mission, to design strategies, to achieve long-term objectives, and to develop policies to achieve annual objectives.

Furthermore, many studies have performed PEST analysis in different fields such as in the automobile industry (Xiaomei, Zhaofang & Ershi, 2009), online payment services (Lao & Jiang, 2009), e-government (Yingfa & Hong, 2010), ecological study (Jianbo, 2012), construction industry (Pulaj & Kume, 2013) and logistics industry (von der Gracht & Darkow, 2010). However, there are several limitations to PEST analysis. Lynch (2012) commented that listing exhaustive factors will result into little significant and showcase lack of any serious consideration in the strategic management process.

Burt, Wright, Bradfield, Cairns, & Van der Heijden, (2006) argued that the 'laundry list' are somehow generic and brings little contribution. They also stressed that the lack of interrelationships among the variables will cause difficulties in understanding how the

factors influenced the environment. However, Von der Gracht and Darkow (2010) discovered that the use of PEST analysis allows better forecast for any unforeseen scenario, and provide a valuable basis for strategy development. This, somehow, is consistent with Lynch (2012) assessments that although PEST analysis relies on past events and experiences, the analysis can be used as a forecast for the future.

The four quadrants in PEST vary in significance depending on the type of business, e.g., social factors are more obviously relevant to consumer businesses, whereas political factors are more relevant to a global munitions supplier or aerosol propellant manufacturer (Byars, 1991). The Economic conditions affect how easy or how difficult it is to be successful and profitable at any time, because they affect capital availability, cost, and demand (Thompson, 2002). According to Thompson (2002), government spending can increase the money supply and make capital markets more buoyant. The expectations of shareholders with regard to company performance, their willingness to provide more equity funding or their willingness to sell their shares will also be affected.

The socio-cultural environment encapsulates demand and tastes, which vary with fashion, disposable income, and general changes that can again provide both opportunities and threats for particular companies (Thompson, 2002; Pearce & Robinson, 2005). Finally, Technology is widely recognized by various literatures on strategic management (Capron & Glazer, 1987; Johnson & Scholes, 1993; Jan, 2002), as part of the organization and the industry and part of the model as it is used for the creation of competitive advantage. Although, technology is external to the industry, it can also be captured and used, and this again can be influenced by government support and encouragement.

The constituents of PEST can be considered as macro-environmental factors and its usefulness lies in the assumption that the success of a particular organization or management solution cannot be understood without having the information relevant to the specific business environment (Buchanan and Gibb, 1998). According to Ward and Rivani (2005) PEST analysis assumes that specific external and indirect circumstances that characterize the business environment are able to influence organizational capacity to produce value. Hence, PEST analysis provides a "satellite view" to assess the external environment (Ward and Rivani, 2005). This is particularly relevant when trying to narrow very large business environments in order to study organizational information systems that influence performance of a firm.

In Nigerian context, it is important to identify the factors that might in turn affect a number of vital variables that are likely to influence the insurance companies' supply and demand levels and its costs when analyzing the macro-environment of the companies. The analysis so far examines the impact of each of the factors on performance. The results can be used to take advantage of opportunities and to make contingency plans for threats when preparing business and strategic plans. In view of the earlier literatures we reviewed and designated in figure 2.4, PESTE factors have direct link with the performance of insurance companies. These factors can influence the generation of income of the business which can possibly lead to its demise. In this study, PESTE will be used to assess the external factors affecting the performance of insurance companies in Nigeria.

2.8 Empirical Studies on Internal Determinants of Companies' Performance

The primary ratios used for analyzing the performance of a company can be categorized into five groups: Liquidity ratios, Asset management ratios, Debt management ratios, Profitability ratios and Market value ratios. These ratios can be combined to determine the rate of return for a company and its owners and the rate at which the company can grow the sustainable rate of growth. By adding data about the company's stock market performance, the analyst can gain insight into how financial markets view the company's performance or the growth of a company (Harrington, & Wilson, 1989)

Lee (2014) investigated the relationship between firm specific factors and macroeconomics on profitability in Taiwanese property-liability insurance industry using the panel data over the1999 through 2009 time period. The study also used operating ratio and return on assets (ROA) for the two kinds of profitability indicators to measure insurers' profitability. The results show that underwriting risk, reinsurance usage, input cost, return on investment (ROI) and financial holding group have significant influence on profitability in both operating ratio and ROA models. The insurance subsidiaries of financial holding group compared with other insurance companies, showing lower profitability. In addition, economic growth rate has significant influence on profitability in operating ratio model but insignificant influence on profitability in ROA model. The study was able to define and justify the method used to identify the effects of underwriting risk and market share via the use of ordinary least square regression model, fixed effect model and random effect model for the analysis of panel data. This is an improvement on the previous studies.

Empirical analysis by Daniel and Tilahun (2013) investigated the determinants of performance in Ethiopian insurance companies using a panel data set consisting of financial data of nine insurers over the period of 2005 to 2010. Return on total assets (ROA) was used as dependent variable while age of company, size of the company, growth in writing premium, liquidity, leverage and loss ratio are independent variables. The results of regression analysis reveal that insurers' size, tangibility and leverage are statistically significant and positively related with return on total asset; however, loss ratio (risk) is statistically significant and negatively related with ROA. Thus, insurers' size, Loss ratio (risk), tangibility and leverage are important determinants of performance of insurance companies in Ethiopia. But, growth in writing premium, insurers' age and liquidity have statistically insignificant relationship with ROA.

A study by Eze and Victor (2013) examined the impact of insurance practice on the growth of Nigerian economy. They used insurance premium income, total insurance investment and income of insurance development as determinants of insurance practice. The study observed that the insurance premium has significantly impacted on economic growth in Nigeria and that there is causal relationship between insurance sector development and economic growth in Nigeria.

Muhaizam (2013) investigated the Determinants of Financial Performance: The Case of General Takaful and Insurance Companies in Malaysia using panel data over the period of 2004 to 2007, using investment yield as the performance measure. This measure is related to a number of economic and firm specific variables, which are the profit/interest rate levels, equity returns, size of company, reinsurance dependence, solvency margin,

liquidity, and contribution/premium growth, chosen based on relevant theory and literature. Based on the empirical results, this study found that size of the company, reinsurance dependence and solvency margin are statistically significant determinants of the investment performance of the general Islamic insurance companies in Malaysia. For conventional insurance, all factors are statistically significant determinants of investment performance, except for equity returns.

Sidra and Attiya (2013) investigated the Determinants of financial performance of a firm: Case of Pakistani stock market. They examined the possible association between financial performance of the firm and economic indicators, corporate governance, ownership structure, capital structure, and risk management. The study examined the performance of firms in terms of profitability and its association with multiple determinants for 60 Pakistani corporate firms listed in Karachi Stock Exchange for the period of 2007 to 2011 and attempted to explain the observed behavior with the help of fixed effect model. The results consistently supported the potential association between firm's financial performance and economic indicators, corporate governance, ownership structure, and capital structure although the intensity of relationship differs across different measures of performance. The test of heterogeneity and multi-colliniarity was conducted in this study which improved the quality of the work. It is also one of the very few examples, which attempts to test various determinant of firm performance in the context of a developing market (Pakistan).

Eric, Samuel and Victor (2013) conducted research on determinants of profitability of insurance firms in Ghana. Secondary data from financial reports were collected from

sixteen insurance firms in Ghana for the period 2005 to 2010.The study was quantitative in nature and adopted the longitudinal time dimension, specifically, the panel method and ordinary least square regression. The study discovered that, apart from tangibility which has a negative relationship, there was a positive relationship between leverage, liquidity and profitability of insurance firms in Ghana. It was also concluded that, the profitability model adopted has been explained in respect to all the independent variables and that the degree of error is less than 20%. The model used for this study was statistically fit as the result of the study presents variations in r square as 81%. The result of the study was also sound as the Multicolinearity of the data was checked.

Waqas, Imran, Jawad and Zahid (2013), empirically identified the factors significantly affecting the firm's performance in textile and food sector of Pakistan. The researchers used longitudinal data set for the period 2005 to 2010. The researcher used one-way fixed effect model due to the presence of cross-sectional fixed effect in the regression results. The dependent variable was profitability as a measure of firm's financial performance while the independent variables were leverage, growth, firm's size, risk, tax, tangibility, liquidity and non-debt tax shield. The firm's performance in case of textile sector is significantly affected by Short term leverage, Size, risk, tax and non-debt tax shield while taking long term leverage as first independent variable, the leverage becomes insignificant along with tax factor. In food sector, Long term leverage, size, risk, tangibility and non-debt tax shield are the factors significantly affecting the firm's financial performance. In addition, the researcher used profitability as measure of firm's financial performance which have been commonly used as surrogate of performance.

Maleya and Willy (2013), conducted a study with aimed to find out the factors affecting the financial performance of listed companies at Nairobi Securities Exchange in Kenya. The study adopted an explanatory research design and 29 listed firms which have consistently been operating at the Nairobi securities exchange during the period 2006-2012 were sampled. Purposive sampling technique was used. The analysis of the data collected from financial statement followed a number of basic statistical techniques. Descriptive statistics (mean and standard deviation) and inferential statistics (Pearson correlation and multiple-regression) were used to analyze data. Pearson correlation was used to ascertain the interrelationship between the variables, whereas multiple-regression was used to assess the extent of the effect of the independent variables on the dependent variable. The findings of the study showed that leverage had a significant negative effect on financial performance ($\beta 1 = -0.289$, $\rho<0.05$). The study provides some precursory evidence that leverage, liquidity, company size and company age play an important role in improving company's financial performance.

An empirical study was conducted in Jordan by Amal (2012). This study aimed at investigating the factors that mostly affect financial performance of Jordanian Insurance Companies. The study population consisted of all insurance companies' enlisted at Amman stock Exchange during the period (2002-2007) which count (25) insurance companies. The data collected was analysed by using a number of basic statistical techniques such as T-test and Multiple- regression. The results showed that the following variables (Leverage, liquidity, Size, Management competence index) have a positive statistical effect on the financial performance of Jordanian Insurance Companies.

Khalifa and Zurina (2013) conducted a study on factors affecting financial Performance of Non-oil Manufacturing Companies Listed on Libyan Stock Market (LSM). The study used the financial ratio analysis to measure the level of liquidity, operational efficiency and profitability. The model of this study consists of nine variables; including the dependent variable which was financial performance measured by the return on assets (ROA) and eight independent variables namely current ratio (CR), quick ratio (QR), net working capital (NWC), inventory turnover ratio (ITR), account receivable turnover ratio (ARTR), general administrative expenses ratio (GAER), company size (CZ) and company age (CG). The data collected was analyzed using financial ratio analysis approach and a number of basic statistical techniques such as descriptive statistics, correlation test (Pearson's correlation) and regression analysis (Multiple Regression Analysis).

The findings of the study revealed that there were significant relations between liquidity variables and operational activity variables with return on assets as findings suggested that, working capital components and financial performance (ROA) in selected companies disclosed both positive and negative association. Three variables were shown to have negative significant relations with return on assets namely current ratio, quick ratio and account receivable illustrate negative significant relations with return on assets, while five variables have shown positive significant relations with return on assets, namely net working capital, inventory turnover ratio, general administrative expenses ratio, company size and age.

Accordingly, Ahmed, Ahmad and Ahmed (2011) investigated the impact of firm level characteristics on the performance of the life insurance sector of Pakistan over the period

of seven years (2001 to 2007). The results of the regression analysis revealed statistical negative impact of leverage, premium growth and age on performance of life insurance companies in Pakistan. The study showed that firm size, tangibility of assets and liquidity are positively and significantly related to the performance of insurance companies. Similarly, an empirical study was conducted by Ibrahim & Abubakar (2011) on the relationship between shareholders fund and profitability of listed insurance companies in Nigeria. The findings of the study found insignificant relationship between shareholders fund and profitability of selected insurance companies in Nigeria during the period of 2006 to 2007.

Another study by Malik (2011) examined the determinants of Pakistan's insurance companies' profitability and uses return on total assets (ROA) as dependent variable. The variables tested were age of company, size of company, the volume of capital, leverage ratio and loss ratio. The result shows that there was no relationship between profitability and age of the company and there was a significant and positive relationship between profitability and size. On the other hand, the analysis suggested that leverage ratio and loss ratio have a negative impact on profitability of insurance companies in Pakistan.

Abdullah, Madya, Ayoib and Khaled (2011) investigated the relationship between agency cost variables (firm size, leverage and auditor type) and the firm performance of 392 listed companies in the Saudi Stock Exchange (Tadawul) during 2007-2010. Their study identified two measurements of the firm performance; ROA and ROE. Using the multiple regressions, the results of this study show that the likelihood a firm performance (ROA) is significantly affected by increases in the firm size. On the other hand, leverage and auditor

type have no influence on the firm performance. Interestingly, the explanatory power of firm performance (ROA) model was high. Somewhat surprisingly, model (2)'s explanatory power was insignificant indicating the inability of the proposed variables (firm size, leverage and auditor type) in explaining the expected effect on firm performance (ROE).

In another study by Charumathi (2012), he empirically assesses the Determinants of Profitability of Indian Life Insurers. The study identified the factors determining the profitability of life insurers operating in India taking return on asset (ROA) as dependent variable. The sample for study included all the 23 Indian life insurers (including 1 public and 22 private) and it used the data pertaining to 3 financial years, viz., 2008-09, 2009-10 and 2010-11. For this purpose, firm specific characteristics such as leverage, size, premium growth, liquidity, underwriting risk and equity capital were regressed against Return on Assets. This study led to the conclusion that profitability of life insurers was positively and significantly influenced by the size (as explained by logarithm of net premium) and liquidity. The leverage, premium growth and logarithm of equity capital have negatively and significantly influenced the profitability of Indian life insurers. This study did not find any evidence for the relationship between underwriting risk and profitability.

Safarova, (2010) examined the determinants of firm performance of New Zealand listed companies over the period of 1996-2007 during which one recession occurred. He explored a number of performance proxies such as Return on Assets (ROA), economic profit (EP) and Tobin’s Q in relation to firm characteristics to see what factors determine firm performance. In addition, he examined the question of whether the importance of these factors changes depending on the state of the economy. The regression model

encompassed eight key factors that have been found to have the most impact on the operating performance of the companies in other markets. These factors were; intangibles, corporate governance, cash on hand, leverage, firm specific risk, size, growth and tangibility. The results have supported previous studies' findings to some extent, with size being the most important factor determining firm performance, followed by growth and leverage with the weaker relationships. Other factors appeared to be marginally related to the operating performance at different significance levels.

Furthermore, Adams and Buckle (2000) provided evidence that insurance companies with high leverage have better operational performance than insurance companies with low leverage. Nevertheless, more empirical evidence support the view that leverage risk reduces company performance. Carson and Hoyt (1995) found that leverage was significantly positively related to the probability of insolvency. Moreover, a negative relationship between leverage and performance has also been found in Browne, Chung, and Frees (2000). Chen, Doerpinghaus, Lin, & Yu, (2009) examined the determinants of profitability and the results showed that profitability of insurance companies decreased with the increase in equity ratio. Chen and Wong (2004) found that size, investment and liquidity were the important determinants of financial health of insurance companies.

Empirical findings have confirmed that there is a positive relationship between liquidity and financial performance of insurers (Carson & Hoyt, 1995). In addition, liquid assets imply high reinvestment risk since the proceeds from liquid assets would have to be reinvested after a relatively short period of time. Undoubtedly, reinvestment risk would put a strain on the performance of a company. In this case, it is, therefore, likely that insurance

companies with less liquid assets outperform those with more liquid assets. Premium growth measures the rate of market penetration. Empirical results showed that the rapid growth of premium is one of the causal factors of insurers' insolvency (Kim, Anderson, Amburgey, & Hickman, 1995).

2.9 Empirical Studies on External Determinants of Companies' Performance

In the literature of factors affecting the companies' performance, many studies argue that external firm factors play a very important role in dictating the influence of firm performance (Hawawini, Subramanian & Verdin, 2003). Peart, (2001) also identified environmental regulation as a strong motivating force behind the improved environmental performance of firms. On the other hand, other studies suggest that firm internal factors seem to be the major determinants of their operating performance (Opler & Titman, 1994).

A number of studies used firm/organization performance as a dependent variable and have treated the external factors as independent variables (Lenz, 1980; Kim and Lim, 1988; Venkatraman and Prescott, 1990; Kotha and Nair, 1995; Amal, 2012; Tukur, 2014; among others). Therefore, studies that have exclusively linked external environment and corporate performance are rare or may not exist, yet performance is contingent upon organizations' appropriate alignment with environmental changes. The emergence of environmental concern as one of the critical factors in strategic business planning indicates the growth of environmental movement in the market place (Menon, Menon, Chowdhury, & Jankovich, 1999).

A study by Kotha and Nair (1995) on strategy and environment as determinants of performance in the Japanese machine tool industry indicated that profitability and growth of performance were influenced significantly by the environment. Besides that, only environmental variables were related with firm growth or firm performance. Hussels, (2005) in his study titled; stimulating the Demand for Insurance identified the factors that encourage insurance demand as economic, political and social factors; he concluded that these factors affect the demand for life insurance as well as property and casualty insurance. He concluded that this environmental factor is a useful strategic tool for understanding market growth or decline, business position, potential and direction for operations.

Aazir and Qazi (2012) investigated the impact of external environmental forces on Pizza fast food industry in Islamabad and suggestions for improvement in their performance. The study was a survey in nature via the use of reliability, correlation and regression as tools for analysis. In this study they found that the four factors; political, economic, social, and technological were the key factors that can determine the performance of the fast food industry. The result of the study, showed that the political factor was somewhat insignificant but other three factors were the major contributing factors; which show the significant results. Adeoye, & Elegunde, (2012) examined the impact of external business environment on organizational performance in the food and beverage industry in Nigeria. A questionnaire was developed and data were collected data from the respondents based on a sample of 3 companies with 150 sample size of questionnaires. Survey data collected for the study were analyzed using multiple regression analysis. The finding of the analysis

shows that the external business environments which include political, economic, socio-cultural and technological factors have impact on organizational performance.

Abdalelah and Zaid (2011) investigated critical factors responsible for issues and problems faced by Saudi Insurance industry. During their investigation they administered 980 questionnaires to assess political, economical, social, technological, environmental and legal factors by conducting percentage analysis, mean, factor analysis and cluster analysis. The result of their study shows that the social and regulatory factors played crucial role in the consumer's decision in purchasing insurance. However it was also found that the public at large was unaware about the benefits of insurance, and various types of insurance products.

Furthermore, Garba and Abdulsalam (2011) investigated the Factors affecting the patronage of insurance services in Borno state, Nigeria. They administered 400 questionnaires to the respondents and used percentage and mean as basis for their analysis. Based on the findings of the study it was discovered that there were numerous factors affecting the patronage of insurance services in Borno State. These factors range from social to economic factors. Insurance can also be seen as a product that is valued subjectively by its customer. In a society in which the economic activities, namely private sector activities are underestimated and the role of government is overestimated, the insurance cannot find its good position in such an economy structure (Shojaei, Jahanifar & Tehrani, 2012).

Ogenyi (2007) assesses the Consumers' Attitudes on the retailing of Life Insurance in Nigeria. The result from the analysis of questionnaire shows that lack of trust and confidence in the insurance companies was the foremost reasons for not buying a life insurance policy in Nigeria. Relatively, less influential reasons for not buying a life insurance was lack of knowledge about insurance products. Almost 40 percent of the respondents do not have any protection against the financial loss that can result from death, disability or critical illness.

Hofstead (1995) points out that the level of insurance within an economy depends on the national culture and the willingness of individuals to use insurance as a means of dealing with risk. Another social aspect analyzed by Zelizer (1979) is religion. He noted that historically, religion has provided a strong source of cultural opposition to life insurance with some religious groups believing that a reliance on insurance represents a distrust of God's protective care.

The existing literature shows that the demand for various types of insurance is affected by number of factors such as income and consumption. There is a relation between national income and spending on property–liability insurance, between legal environment and demand for insurance, national culture and the willingness of individuals to use insurance. Besides, risk aversion has significant impact on the demand for property casualty insurance. Education promotes an understanding of risk and hence aids insurance demand.

2.10 Theoretical Framework

Effort has been devoted by many researchers in identifying internal and external determinants that affect companies' performance such as firms' size, interest rates, economic stability and exchange rates (Davidson, Kirchhoff, Hatemi, & Gustavsson, 2002). In this view, early studies in the manufacturing industry found relationship between performance and size. Several studies have undertaken the task of assessing the relationship between growth and size of the firm. This fact stimulated the idea that the relationship between growth and size is a stochastic phenomenon. This idea is known as the Gibrat's law (1931). Furthermore, the other theoretical underpinning for this study is resource-based view theory by Penrose (1959).

2.10.1 The Gibrat's law (1931)

The most recognized and empirically tested theory of firm performance is probably Gibrat's law (1931) that theorizes that the size of a firm at any given point in time is the product of a series of random growth rates in the history of the firm. In other words, the growth of a firm in any given period of time is independent of the size of the firm at the beginning of the period. But regarding the empirical evidence in support or rejection of Gibrat's Law of proportionate effect, the evidence is not yet conclusive as can be found in the reviewed literatures.

In the last three decades, numerous studies began to appear which empirically tested the validity of Gibrat's Law. Therefore, statistical and econometric techniques and sample sizes were used but the predominating result is the acceptance and rejection of Gibrat's Law. Farinas and Moreno (2000), Audretsch, Klomp, and Thurik (2004), Lensink, van

Steen and Sterken (2005), all of these studies accepted the Gibrat's Law. By using lists of large firms, which was about 260,000 firms in 45 different European countries during the period 1992 -2001, Fujiwara, Guilmi, Aoyama, Gallegati, and Soum (2008) demonstrated that the growth rate of each firm was independent of the individual firm's size at the beginning of the study and their result was shown for total assets, number of employees and sales.

Choi (2009) investigated the relationship between firm sizes, age and growth rate in the U.S insurance market. Choi's data consisted of 823 firms during the period of 1992 and 2001. From this sample, he also tested the relevance of Gibrat's Law. He found that growth and firm size were independent, as predicted by Gibrat (1931). Using quintile regressions, Leitao, Serrasqueiro, and Nunes (2010) tested Gibrat's Law in the context of listed Portuguese companies, consisting of a total of 39 companies for the period of 1998-2004. By using the asset logarithm as a measure of size and the difference in logarithms as the growth measure of the listed Portuguese companies, they found that the growth of listed Portuguese companies was independent of their size.

For the Swedish Energy industry sector, the study by Tang (2013) is considered as a pioneering study for this sector. The data consisted of all limited firms in the Swedish energy sector during the period of 1997 to 2011. A random coefficient model was constructed to test Gibrat's Law at the individual firm level. Tang used revenue and a number of employees as the indicator of firm size with a sample size of 18137 firms. He found that Gibrat's Law held for 70 percent of cases. In approximately *86 (revenue)* and 79 (employment) percent of the cases, Gibrat's Law cannot be rejected at the firm level. Thus,

like we mentioned, the studies above accepted Gibrat's Law i.e. accepting it as valid. However, in contrast, there are several other studies which pointed toward the rejection of Gibrat's Law. Hence, the studies that view Gibrat's Law as not valid are highlighted.

Accordingly, several studies investigated the validity of Gibrat's Law such as those by Pagano and Schivardi (2000), who found Gibrat's Law invalid. This result supports Oliveira & Fortunato, (2003), Al-Mahrouq (2006), Harris and Trainor's (2005), Al-Mahrouq (2006), Lotti, Santarelli, & Vivarelli, (2007), who all found that Gibrat's Law is invalid. Additionally, Coad (2008) examined if Gibrat's Law held for French manufacturing firms by using data collected from 8496 firms for the period 1996 to 2004. The study rejected Gibrat's Law as it found that smaller firms had the highest growth rate. In yet another study, Hoxha (2008) examined the validity of Gibrat's Law in Kosovo, by using 289 firms established between 1997 and 2002. Production, trade and service sectors were taken into account. Size was implied by the number of employees. He found that small firms grew faster than large firms which mean that Gibrat's Law did not hold for Kosovo's firms.

Similarly, in testing the validity of Gibrat's Law, Mukhopadhyay and Amirkhalkhali (2010) applied the dynamic model analysis of panel data on a sample of the 500 largest industrial firms in the USA during the period of 2000 -2007. They found that larger firms grew faster, violating Gibrat's Law. In yet another study, Daunfeldt and Elert (2010) by using a dataset that consisted of 288,757 firms in several industries in Sweden during the period of 1998-2004, investigated if industry context matters in regards to whether Gibrat's Law is rejected or not, in which they used employees and revenue as a measurement of

firm size. The results rejected Gibrat's Law as small firms tended to grow faster than large firms. Recently, Daunfeldt, Elert and Lang (2011) conducted a study measuring Gibrat's Law within the retail industry in Sweden by using a novel dataset between 1998 and 2004. The collected data covered 18,141 firms with the size of the firm indicated by employment and revenue which were the most common indicators of the firm size. The result was concluded in the rejection of Gibrat's Law against a large majority of retail industries since small retail firms tended to grow faster than large ones.

In the previous studies, we examined studies which tended to either accept or reject Gibrat's Law. However, there are also studies that presented both results of accepting and rejecting Gibrat's Law. This difference in the results of research goes back to the variation in the methodology, the period of the study, sample size, sectors, and size measurement. Hence, the studies that have both results of accepting and rejecting the Gibrat's law include; Lotti, Santarelli, & Vivarelli, (2007), Crosato, Ganugi and Grossi (2003), Calvo (2004), Kostov, Patton, Moss, and McErlean (2006),. All of these studies showed mixed results, where part of the study accepted Gibrat's Law while the other part rejected it.

Similarly, Park, and Sydnor (2011) examined the relationship between a firm's size and its growth rate within the U.S domestic and international restaurant firms. The data were collected from the Ompustat Industrial Annual and Segment database, comprising of 5,818 restaurants, and covering fiscal years from 1995 to 2006. The firm's size variable was measured by sales. They found that U.S restaurant firms have a negative relationship between firm size and growth rates, suggesting a rejection of Gibrat's Law. However, this study found that Gibrat's Law did hold but only for the small scaled international

restaurant firms. The result suggested that the small restaurant firms pursuing international growth strategies should carefully consider the robustness of this strategy.

In Turkey, Aslan (2008) tested Gibrat's Law by using the panel unit root method during the period of 1985 to 2004. The sample size consisted of 103 firms. To represent the firm size, he used net assets. The survey rejected Gibrat's Law for seven industries (cement, plastic, pipe, textile, automobile, medical, chemical and steel iron) as a firm's size and growth rates were found not to be independent, but in other industries (food, electrical machinery, electronics and transportation), Aslan could not reject Gibrat's Law and found that firm size and growth were independent.

It is important to note that the measure of size for the original study performed by Gibrat was the number of employees; however, there is a variety of different measures of size (sales, net assets, value added and many others). Nevertheless, one of the measures of size most often used is the number of employees. Furthermore, Gibrat's Law did not specify for what time period the law is applicable. Therefore, there are a variety of different time periods and length of period to be used. Moreover, the majority of these studies have implemented Gibrat's Law in the manufacturing sector while few others, in the service sector. In general, most of the empirical studies that have been applied in the developed countries rejected Gibrat's Law. From this overview, we can deduce that it is possible to implement Gibrat's Law for developing countries and Nigeria in particular.

2.10.2 Resource-Based View Theory

Another theory found to be relevant to this study is Resource-Based View (RBV) theory. The resource-based view of the Firm (Penrose, 1959; Wernerfelt, 1984; Barney, 1986, 1991; Amit and Schoemaker, 1993) has earned a reputation as a promising contemporary theory that combines strategic insights on competitive advantage and organizational insights on firm existence. The resource-based view emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. The foundations of the resource-based view theory of the firm can be found in the work by Penrose in (1959) that conceived the firm as an administrative organization and a collection of productive resources, both physical and human.

The defining characteristics of the RBV are (i) its focus on the resource endowments of firms as the basis of firm heterogeneity, (ii) its claim that differential performance among firms can be explained by differences in their resource endowments, and (iii) its resulting suggestion that building up stocks of "strategically valuable" resources is the key to achieving competitive success and the generation of economic profits referred to as rents (Barney, 2001). According to the RBV, material resources as well as human resources, can provide the firm a variety of services. The same resources can be put to use in different ways, according to the ideas of the firms on how to apply them. Penrose (1980) extended this view by claiming that performance and profit are equal factors in expanding decisions. In recent years, many studies on the status, evolution, and/or trends of the resource-based view (RBV) have been published (Barney, 2001a, 2001b; Priem and Butler, 2001; Hoskisson, Hitt, Wan, & Yiu,1999).

The issue of firm performance has been central in strategy research for decades and encompasses most other questions that have been raised in the field, for instance, why firms differ, how they behave, how they choose strategies and how they are managed (Porter, 1991). In the 1990s, with the rise of the resource-based approach, strategy researchers' focus regarding the sources of sustainable competitive advantage shifted from industry to firm specific effects (Spanos and Lioukas, 2001). Initiated in the mid-1980s by Wernerfelt (1984), Rumelt (1984) and Barney (1986), the Resource-Based View (RBV) has since become one of the dominant contemporary approaches to the analysis of sustained competitive advantage. A central premise of the resource-based view is that firms compete on the basis of their resources and capabilities (Peteraf and Bergen, 2003).

The resource based view theory, therefore, focuses specially on the inside of the firm, its resources and capabilities, to explain the profit and value of the organization (Penrose, 1980; Wernerfelt, 1984; Barney, 1991; Grant, 1991; Peteraf, 1993; Makhija, 2003). This theory is applied to explain differences in performance within an industry (Hoopes, Madsen, & Walker, 2003). The RBV of the firm states that differences in performance happen when well successful organizations possess valuable resources that others do not have, allowing them to obtain a rent in its quasi-monopolist form (Wernerfelt, 1984).

The RBV suggests that competitive advantage and performance results are a consequence of firm-specific resources and capabilities that are costly to copy by other competitors (Barney, 1986a, 1986b, 1991; Wernerfelt, 1984, Rumelt 1987). These resources and capabilities can be important factors of sustainable competitive advantage and superior firm performance if they possess certain special characteristics. They should be valuable,

increasing efficiency and, effectiveness, rare, imperfectly imitable and non-substitutable (Barney 1991).

The RBV of a firm is a strategic line of thought that analyses the organization's strengths and weaknesses. The organization's attributes that allow it to conceive of and implement value-creating strategies are resources. According to Barney (1991) firm resources can be classified into three categories: physical capital resources, human capital resources and organizational capital resources. Resources can also be tangible, or intangible (Hoskisson, Hitt, Wan, & Yiu, 1999; Hannes and Fjeldstad, 2000; Gupta and Roos, 2001; Spanos and Lioukas, 2001; Mathews, 2003). The resources, assets and capabilities the firm possesses are used to build its competitive advantage and, as a consequence, economic wealth (Dess, Gupta, Hennart, & Hill, 1995). The resources and capabilities, tangible and intangible, generate economic returns for the firm (Amit and Schoemaker, 1993).

Most resource-based view researchers choose to "look within the enterprise and down to the factor market conditions that the enterprise must contend with, to search for some possible causes of sustainable competitive advantages" holding constant all external environmental factors (Peteraf and Barney, 2003, p. 312). This inward-looking approach has proven to be both influential and useful for the analysis of many strategic issues (Foss and Knudsen, 2003), among which are the conditions for sustained competitive advantage and diversification.

Furthermore, given its elegant simplicity and its immediate face validity, the RBV's core message is appealing, easily grasped and easily taught. Along with its development, the

RBV has also been extensively criticized for many weaknesses. Some of the critiques have been leveled indirectly by suggesting amendments to the RBV. There are also polemical papers critiquing the RBV directly (Foss & Knudsen, 2003; Spender, 2006). In this respect, Priem & Butler's (2001a, 2001b) critiques and Barney's (2001) responses are widely-known. In 2001, one of the most interesting academic debates in strategic management was published in Vol.26 (1) of the Academy of Management Review. Priem and Butler (2001a) started off by their critique of Barney's (1991) original article. Barney (2001) then responded and defended his research, followed by another critical comment by Priem and Butler (2001b). Priem and Butler (2001) raised many key points of criticism as follows:

i. The RBV may be tautological, or self-verifying. Barney has defined a competitive advantage as a value-creating strategy that is based on resources that are, among other characteristics, valuable (1991, p106). This reasoning is circular and therefore operationally invalid (Priem and Butler, 2001a, p31). For more information on the tautology, see also Collis, 1994.
ii. According to Priem and Butler (2001a), Barney's perspective does not constitute a theory of the firm. The conditions of law like generalizations of empirical content, comic necessity and generalized conditionals are not met.
iii. Different resource configurations can generate the same value for firms and thus would not be a competitive advantage
iv. The role of product markets is underdeveloped in the argument
v. Limited focus on capabilities
vi. Retrospective causality issues: any current success could be attributed to a number of reasons (e.g. unique resources), but the causality is not always clear.
vii. The theory has limited prescriptive implications

However, Barney (2001) provided counter-arguments to these points of criticism. For example, he said that any theory could be rephrased to appear tautological. He also stated that his theory applies to static (equilibrium) environments, but not to dynamic environments. As today's business realities are clearly not static but dynamic and characterized by high velocity and rapid change, Barney (2001) thus admitted that his 1991 VRIN theory has little potential for applicability to the real world. It does, however, provide a good way for senior managers to better understand their resource base. Barney (2001) also suggested re-defining the criterion of "value" and pointed to different ways of describing "competitive advantage" as strategic advantage, above-average industry profits and economic rents. The tone of his paper appears defensive at times, showing that Priem and Butler (2001a) have actually raised some important issues.

Priem and Butler (2001a; 2001b), however could be criticized for slightly missing the point. This is because they focus on the status of the RBV as a theory, the tautology allegation and sustainable competitive advantage. In business reality, senior managers are often not interested whether or not the RBV constitutes a real theory or not. Instead, they require guidance for achieving competitive survival.

RBV critics are helpful in identifying the exact contribution of the RBV current insights on the link between a firm’s resources and capabilities and sustainable competitive advantage. In addition, they assist in revealing the areas of theoretical attention and sometimes even suggest ways to address the criticisms that they voiced themselves. A critical examination

and discussion of any theory is the only way forward to improve its theoretical soundness and to challenge theorists to constantly revise and improve their work.

Therefore, resources are the basis of RBV theory and they explain the differences in performance between firms and as a consequence, firms that possess certain competitive advantages obtain higher returns. On the other hand, resources are the basis of the organization's strategy and are used to implement it. Having this in mind we are able to observe the joint effect of resources and strategy in the organization's returns (Hitt, M., Bierman, Shimizu, & Kockhar, 2001). According to Barney (1991), following other authors, firm resources are the assets, the capabilities, the organizational processes, the firm attributes, the information and the knowledge, among others.

The resource-based view comprises a rising and dominant area of the strategy literature which addresses the question of an organization's identity and it is principally concerned with the source and nature of strategic capabilities. The resource-based perspective has an intra organizational focus and argues that performance is a result of firm-specific resources and capabilities (Barney, 1991; Wernerfelt, 1984). In this view, it is important to assess the determinants of firm performance in an integrated way, and to identify the most important determinants of firm performance. In this context despite the fact that external factors play an important role in transitional economies, it is necessary to take into account internal factors in explaining the performance of insurance companies in Nigeria. So, in this study we would take both internal and external environmental factors that affect firms' performance in developed and developing countries. By doing this, we would be able to identify determinants of insurance companies' performance in Nigeria.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides details on design and methodology utilized in this research work. Furthermore, discussions on the population of the study, sample size of the study and methods adopted in carrying out this research were all presented. The chapter also provides discussions on the methods through which the data for this research study was acquired, the techniques used in the analysis of such data and their justification.

3.2 Research Design

There are various research designs available to researchers. The particular design employed by a researcher depends on the problem of the study. In this study, descriptive research design was employed. This type of research is undertaken after the events have taken place and the data are already in existence. Also, the researcher does not in any way control or manipulates the variables because the situation has already taken place. This method helps the study with information that was used to make inferences on the determinant of listed insurance companies' performance in Nigeria.

This study utilizes analytical survey design in order to collect data from insurance companies in Nigeria and specifically, to examine the relationship between different variables in our sample group. It is important to note that, survey research design is a very valuable tool for assessing opinions and trends. Therefore, judging opinion of selected respondents with carefully designed survey can dramatically change strategies of insurance companies in Nigeria.

3.3 Population of the study

This study uses organization as unit of analysis. The population of this study was from the Nigerian insurance industry which comprises all the thirty (30) listed insurance companies in Nigeria that were in operation as at 31st December, 2014 (Appendix A). The choice of these companies is based on the fact that they fully satisfied the listing requirement of Nigerian Stock Exchange (NSE) and must have available data required for the study. Therefore, financial statements of these companies served the purpose. On the other hand, 5,445 employees of these companies were also requested to respond to the questionnaires that were distributed to their respective companies.

3.4 Sample Size and Sampling Techniques

The determination of sample size in this study was divided into two: sample size of the insurance companies and the questionnaires to be distributed to the respondents. These samples are drawn from their populations scientifically.

a) Sample Size of the insurance Companies:

The sample size of this study will be determined based on the following filter criteria;

i. The company must be listed on the Nigerian stock exchange from January, 2007 up to December, 2014
ii. The company must have continuous data from December, 2007 up to December, 2014 (8 years) required by the study.

On the basis of the above criteria, twenty seven (27) insurance companies in Nigeria met all of the above criteria, which represent 90% of the population.

b) Sample size of the questionnaire

This study utilizes survey research method with the population of 5,445 employees of all the thirty (30) listed insurance companies in Nigeria that were in operation as at 31st December, 2014. The sample size of the respondents from the population of the study was computed scientifically using Krejcie and Morgan (1970) formula in equation 1:

$$s = \frac{X^2NP(1-P)}{d^2(N-1)+X^2P(1-P)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots .. (1)$$

Where:

S = Sample size

X^2 = Z statistic value associated with the 95% confidence interval (1.96)

N = the population Size

P = population proportion assumed to be (50%)

d = the degree of accuracy expressed as proportion (5%)

It is important to note that, before collecting data, the proportion of respondents who answer “agree” or “disagree” is unknown, so the proportion of 0.5 was used instead of 0.80 for a more homogenous sample (Dillman, 2000). However, using 0.50 will lead to a greater sample size than using 0.80 (Weaver 2006); But, it provides an adequate sample size for a smaller or greater population (Biemer & Lyberg, 2003). Therefore, the sample size of the respondents from employees of listed insurance companies in Nigeria was computed as follows:

$$s = \frac{(1.96)^2(5445)(0.50)(0.50)}{(0.05)^2(5445-1)+(1.96)^2(0.50)(0.50)} = 359$$

Therefore, from the above computation, 359 copies of questionnaire were determined as minimum copies of questionnaire distributed. But in order to achieve the minimum sample size of the population, 720 copies of questionnaire were distributed as a provision for non-response of questionnaires and bias of the respondent. The target of the study is to achieve a minimum of 50% response (i. e 360). This is in line with previous studies that used this type of sampling design and technique (Ringim, 2012; Wolfer, 2007, 529-533).

3.5 Methods of Data Collection

Data are classified as either primary or secondary. Primary data refer to the data collected by the researcher for the specific research problem at hand. Secondary sources, on the other hand refer to the publications of other agencies or bodies that collected data for purposes different from which the researcher intends to use it for. The sources consist of published documents such as annual reports and accounts, journals, magazines and periodicals. For the purpose of this study both primary and secondary source of data were used in an attempt to achieve the set objectives of the study and to solve the problem under study.

This study collected secondary data from annual reports of listed insurance companies in Nigeria, which are available in the financial publications of companies and the Nigerian Stock Exchange fact books for 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014. Furthermore, supplementary information was obtained from insurance companies' websites, such as NAICOM and Nigerian Insurance Association (NIA). However, primary data were collected through structured questionnaire distributed to employees of insurance

companies. The questionnaire contains closed-ended questions originally developed in English language since it is the official language of the country.

In addition, Llkert (1932) design was used for scale measurement as 1, 2, 3, 4, 5 and 6 for strongly disagree, disagree, slightly disagree, slightly agree, agree and strongly agree as can be found in the literatures (Ringim, 2012; Wolfer, 2007; Monette, Sullivan & DeJong 2002). The scale of 5 and 6 were found to be more realistic than shorter or higher scale. Therefore Likert scale of 1 to 6 was adopted in this study. The scale also was analyzed and the reliability of all the variables was tested and the alpha values were reported for all the variables, in order to see whether the questionnaire is reliable and can be use or not.

In an attempt to get the high rate of response and to get completed questionnaire returned as quickly as possible, the hand delivery and collection method was chosen; which is expected to give a high response rate. Hand delivery and collection are an efficient method in an environment where a research culture is not sufficiently developed, specifically developing countries and Nigeria in particular. For instance, research has shown that the rate of return of mailed questionnaires is between 3 per cent and 4 per cent (Asika, 1991).

The copies of the questionnaire were apportioned and distributed based on the total number of employees of each thirty (30) insurance companies in Nigeria (appendix B). However, due to the nature of the research at hand emphasis was be given to the employees from marketing departments, research and development departments of the companies during the questionnaire administration process due to their vast knowledge on the subject matter as result of their closeness to customers and the public at large.

3.6 Techniques of Data Analysis

There are many techniques for analyzing data collected for a research. In this study, the statistical analysis used consists of percentage analysis, descriptive analysis, factor analysis, correlation analysis and regression analysis via the use of Statistical Package for Social Sciences (SPSS) software. In addition, robustness test was carried out in order to identify and solve the common problems that may occur in estimating location, scale and regression parameters.

3.6.1 Stationarity Test

The secondary data for variables in the multiple regression model are time-series (study of data collected through time) based. Therefore, the stationarity or otherwise of a series can strongly influence its behaviour and properties (Hamilton, 1994). This is because if two variables are trending over time, a regression of one on the other could have a high R^2 even if the two are totally unrelated. Secondly, if the variables in the regression model are not stationary, then, it can be proved that the standard assumptions for asymptotic analysis will not be valid. In other words, the usual "*t*-ratios" will not follow a *t*-distribution, so we cannot validly undertake hypothesis tests about the regression parameters. So, it is important to ensure that the model is unbiased. Therefore, the unit roots test of Augmented Dickey-Fuller (ADF) test was carried out to assess the existence of non-stationarity of each variable. The testing procedure for the ADF test is applied to the model as in equation 2:

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \ldots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots (2)$$

Where; is a constant, the coefficient on a time trend and the lag order of the autoregressive process. The Stationarity tests have H_0: *yt* is stationary versus H_1: *yt* is non-stationary. So by default under the null, the data will appear stationary

3.6.2 Descriptive Statistics Test

Descriptive statistics test was conducted in this study using SPSS software version 20.0, in order to give the audience more understanding about the study variables that are being analyzed. This is because it deals with the presentation of numerical facts, or data, in either tables or graphs form, and with the methodology of analyzing the data. Descriptive statistics is derived from statistical analysis before another test performed using multiple regression analysis (Djoko, Eni, & Sri, p. 240, 2009). Therefore, descriptive analysis was used to produce mean, range of scores (Minimum & Maximum), standard deviation, skewness and kurtosis for each variable of the study.

3.6.3 Correlation Test

Correlation is another way of assessing the relationship between variables. To be more precise, it measures the extent of correspondence between the ordering of two variables. Generally, in statistical analysis, correlation test comes before the start of regression analysis. Therefore, it is important to check the correlation test between two or more study variables. In this study, Pearson's correlation coefficient matrix was generated through the SPSS software version 20.0, which shows the cross-relationship between all of the variables. Pearson correlation coefficient is one of the most commonly used to measure the association between two quantitative variables.

Furthermore, Pearson's correlations test was used to determine the strength of the relationship between variables of this study. The Pearson correlation scale ranges from -1.00 to +1.00. Therefore, any value greater than zero indicates a positive direct relationship between the two variables, which implies that every increase in the independent variable will lead to increase in dependent variable, while any value less than zero indicates a negative indirect relationship between the two variables, that means that every increase in the independent variable will led to the decrease in dependent variable (Abdul-Hafiz, 2012). Furthermore, a value of 0.00 means that there is no relationship between the variables being tested.

3.6.4 Multiple Regression Analysis

The multiple linear regression model is an extension of a simple linear regression model that incorporates two or more explanatory (independent) variables in a prediction equation for a response (dependent) variable. It has been noted in research that since Cohen's 1968 seminal article, multiple regression analysis has become increasingly popular in both basic and applied research journals (Hoyt, Leierer, & Millington, 2006). Therefore, multiple regression examines the relationship between a single outcome measure and several predictor or independent variables (Jaccard, Guilamo-Ramos, Johansson, & Bouris, 2006).

In this study multiple regression analysis was conducted via the use of Software Package for Social Sciences (SPSS) version 20.0 and examines the relationship between each of the dependent variables (ROA, ROE and EPS) and independent variables (CAG, CSZ, LEV, ATG, LIQ, GWP, UWR, GRT, SLV and MKS) of insurance companies' in Nigeria. The decision rule for regression is that if the p value is less than the alpha (α) value at 5%

(0.05) level of significance we reject the null hypothesis (H_0) and if otherwise we do not. Therefore, the regression model involves the following variables:

$$Y_{it} = \alpha_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \ldots\ldots\ldots + \beta_{nit} x_{nit} + \square_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

Where; Y = the dependent variable

= constant term

= the coefficient of the independent variable

= the independent variables

= stochastic error term for company at time *t*

= sample

= time period

In various fields of application, different terminologies are used in place of dependent and independent variables. For the purpose of this study, the multiple regression equations are formulated thus:

$$ROA_{it} = \alpha_0 + \beta_1(CAG)_{it} + \beta_2(CSZ)_{it} + \beta_3(LEV)_{it} + \beta_4(ATG)_{it} + \beta_5(LIQ)_{it} + \beta_6(GWP)_{it} + \beta_7(GRT)_{it} + \beta_8(SLV)_{it} + \beta_9(EQT)_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

$$ROE_{it} = \alpha_0 + \beta_1(CAG)_{it} + \beta_2(CSZ)_{it} + \beta_3(LEV)_{it} + \beta_4(ATG)_{it} + \beta_5(LIQ)_{it} + \beta_6(GWP)_{it} + \beta_7(GRT)_{it} + \beta_8(SLV)_{it} + \beta_9(EQT)_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5)$$

$$EPS_{it} = \alpha_0 + \beta_1(CAG)_{it} + \beta_2(CSZ)_{it} + \beta_3(LEV)_{it} + \beta_4(ATG)_{it} + \beta_5(LIQ)_{it} + \beta_6(GWP)_{it} + \beta_7(GRT)_{it} + \beta_8(SLV)_{it} + \beta_9(EQT)_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (6)$$

Where: ROA = Return on Assets

ROE = Return on Equity

EPS = Earnings per share

CAG = Company Age

CSZ = Company size (log Total Assets)

LEV = Leverage

ATG = Asset Tangibility

LIQ = Liquidity

GWP = Gross Written Premium

GRT = Growth Rate

SLV = Solvency Rate

EQT = Equity

The values of total assets and equity in regression equations were converted to natural logarithmic form in order to neutralize all the values into ratio. This study considered period after recapitalization (2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014) as a period for the assessment of determinants of insurance companies' performance in Nigeria. Therefore, the choice of explanatory variables is based on their theoretical relationship with the dependent variable. These explanatory variables and their measurements are as follows.

Table 3.1:

Definition of Internal Determinants Variables (proxies)

S/No	Variables	Proxy	Measurement	Variable Specification
1	Company's Age	CAG	Number of years of a Company from date of incorporation	Independent
2	Size of Company	CSZ	Natural log(Total assets)	Independent
3	Leverage	LEV	$\frac{Total\ Debt}{Total\ Equity}$	Independent
4	Asset Tangibility	ATG	$\frac{Fixed\ Assets}{Total\ Assets}$	Independent
5	Liquidity	LIQ	$\frac{Current\ Assets}{Current\ Liabilities}$	Independent
6	Growth Written Premium	GWP	$\frac{GWP_t - GWP_{t-1}}{GWP_{t-1}}$	Independent
7	Growth Rate	GRT	$\frac{GRT_2 - GRT_1}{GRT_1}$	Independent
8	Solvency Rate	SLV	$\frac{Ratio\ of\ Net\ Assets}{Net\ Written\ Premiums}$	Independent
9	Equity	EQT	Natural log(Total Equity)	Independent
10	Return on Assets	ROA	$\frac{Profit\ after\ tax}{Total\ Assets}$	Dependent
11	Return on Equity	ROE	$\frac{Profit\ after\ tax}{Average\ Shareholder's\ Equity}$	Dependent
12	Earnings per share	EPS	$\frac{Profit\ after\ tax}{Average\ Outstanding\ Shares}$	Dependent

Source: Various definitions (Burca & Batrinca, 2014; Lee, 2014; Daniel & Tilahun, 2013; Bashir, 2013; Tariq, 2013; Charumathi, 2012)

3.6.5 Factor Analysis

Furthermore, factor analysis was carried out in this study in an attempt to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables. Factor analysis can also be used to generate hypotheses regarding causal mechanisms or to screen variables for subsequent analysis (for example, to identify collinearity prior to performing a linear regression analysis). If the observed variables are $X1$, $X2$ …. Xn, the common factors are $F1$, $F2$ … Fm and the unique factors are $U1$, $U2$ …Un, then, the variables may be expressed as linear functions of the factors:

$$Xn = an1F1 + an2F2 + an3F3 + \dots + anmFm + anUn \quad \dots\dots\dots(7)$$

Given the equation (vii) above, which show the observed variables $X1$ ... Xn in terms of the factors $F1 ... Fm$, it should be possible to solve the equations in another form. In other words, equations of the form below:

$$Fm = bm1X1 + bm2X2 \dots bmnXn \quad \dots\dots\dots (8)$$

Each of these equations is a regression equation; factor analysis seeks to find the coefficients $a11$, $a12$ … anm which best reproduce the observed variables from the factors. Therefore, for the purpose of this study, the factor analysis model is formulated thus:

$$PER = \alpha + \beta_1(POL)_i + \beta_2(ECO)_i + \beta_3(SOC)_i + \beta_3(TEC)_i + \varepsilon_i \quad \text{..... (9)}$$

Where: PER = Performance

POL = Political factors

ECO = Economical factors

SOC = Social factors

TEC = Technological factors

ENV = Environmental factors

For the rule for factor analysis to be appropriate, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value must be 0.6 (60%) or above. Secondly, the Barlett's test of sphericity value should be significant (i.e. 0.05 or smaller). The data also for which Pearson correlation coefficients can sensibly be calculated should be suitable for factor analysis. This means that the variables should be quantitative at the interval or ratio level. Categorical data (such as religion or country of origin) are not suitable for factor analysis. Therefore, the choice of explanatory variables is based on their theoretical relationship with the dependent variable. These explanatory variables and their assumptions are as follows.

Table 3.2:

Definition of External Environmental Variables (proxies)

S/No	Variables	Proxy	Variable Specification	Assumption
1	Company Performance	PER	Dependent	Dependent
2	Economic factor	ECO	Independent	Positive
3	Political factor	POL	Independent	Positive
4	Social factor	SOC	Independent	Positive
5	Technological factor	TEC	Independent	Positive
6	Environmental factor	ENV	Independent	Positive

Source: Various definitions (Pulaj & Kume, 2013; Lynch, 2012; Hussels, 2005)

3.6.6 Accuracy and Robustness Tests

Robust statistical methods have been developed for many common problems, such as estimating location, scale and regression parameters. Furthermore, in statistics, classical estimation methods rely heavily on assumptions which are often not met in practice (Koller, 2007). So, robustness testing has been used to describe the process of verifying the correctness of test cases in a test process that can make valid regression model assumptions. The correct use of the multiple regression models requires that several critical assumptions be satisfied in order to apply the model and establish validity (Poole & O'Farrell, 1971). Ignoring the regression assumptions contribute to wrong validity estimates (Antonakis, & Deitz, 2011). The assumptions include absence of serial or autocorrelation in the residual, the variance in the residual should be constant (no

heteroscedasticity) that is, homoscedasticity and the residuals should be normally distributed. The tests include normality test, multicolinearity test, serial correlation test, and heteroscedasticity test.

3.6.6.1 Normality Test

Multiple regression assumes that variables have normal distributions (Darlington, 1968; Osborne & Waters, 2002). The examination of the normal distribution of the data of the study is one of the fundamental requirements for linear regression analysis between the study variables (Khalifa & Zurina, 2013). Normality tests are used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed (Gujarati, 2009). Generally, sample data sets are often skewed to the right for various reasons, and if we cannot *normalize* the data we should not compare means (more on normalizing data sets later). In other words, in order to be consistent we need to formally test our assumptions of normality. To test formally for normality we use either an Anderson-Darling or a Shapiro-Wilk test. Thus, the formula for the test is given below:

$$W = \frac{(\sum_{i=1}^{n} a_i x_{(i)})^2}{\sum_{i=1}^{n}(x_i - \bar{x})^2} \quad \text{...} \ (10)$$

Generally, Shapiro-Wilk’s W is recommended for small and medium samples up to n=2000 and therefore, W is significant if the variables distribution is not different from normal. In SPSS software, the distribution of normality can be assessed by skewness and kurtosis statistics , that values of Skewness (SK) and Kurtosis (KU) should be within the range from -1 to +1(Jyh-Tay Su and Lim Veron Nardy, p. 983. 2012)

3.6.6.2 Test of Goodness-of-fit

The goodness of Fit (GOF) of a statistical model describes how well it fits into a set of observations. GOF indices summarize the discrepancy between the observed values and the values expected under a statistical model. R- Square is generally used to estimate the goodness of fit of the models. R^2 is a number that indicates how well data fit a statistical model.

$$R^2 = \frac{[N(\sum xy) - (\sum x)(\sum y)^2]}{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]} \quad \ldots\ldots\ldots\ldots\ldots\ldots \text{(11)}$$

An R^2 of 1.0 or close to it indicates that the regression line perfectly fits the data. Typically, values of R^2 below 0.2 are considered weak, between 0.2 and 0.4, moderate, and above 0.4, strong (SSRL, 2010).

3.6.6.3 Multicollinearity Test

Multiple linear regression assumes that there is little or no multicollinearity in the explanatory variables data. According to (Gujarati, 2003), one of the assumptions of linear regression model is that there is no multicollinearity among the explanatory variables. Multicollinearity exists when a predictor is a perfect linear combination of one or more of the remaining predictors. That is to say, Multicollinearity exists when a predictor is highly correlated with other predictors. Multicollinearity can be controlled by tolerance values and values of variance inflation factor (VIF), high value of multicollinearity can result in both regression coefficients being inaccurately estimated, and difficulties in separating the influence of the individual variables on the dependent variables. Any variables with a

tolerance value below 0.10 or with a value above 10.0 of variance inflation factor (VIF) would have a correlation of more than 0.90 with other variables, indicative of the multicollinearity problem (Hair, Anderson, Tatham, & Black, 1998). Therefore, the formula for VIF is given below:

$$VIF_k = \frac{1}{1- R_k^2} \quad \text{..... (12)}$$

Generally, we need to worry if **.** Gujarati (2003) posit that multicollinearity may not pose a serious problem when R^2 is high and coefficients are individually significant as evidence from t-statistic.

If multicollinearity is found in the data, one remedy might be centering the data. To center the data, you would simply deduct the mean score. This typically helps in cases where multicollinearity sneaked into the model when applying non-linear transformations to correct missing multivariate normality. Other alternatives to tackle the problem of multicollinearity in multiple linear regression is to conduct a factor analysis before the regression analysis and to rotate the factors to insure independence of the factors in the linear regression analysis.

3.6.6.4 Serial Correlation (*Autocorrelation)*

Statistically, multiple linear regression analysis requires that there is little or no autocorrelation in the data. According to Rafika and Muhamad (2012) autocorrelation test objective to test the regression model if there is a correlation between the error in period t

with bullies error in period t-1 (previous period). The regular Multiple Regression routine assumes that the random-error components are independent from one observation to the next. However, this assumption is often not appropriate for business and economic data. Instead, it is more appropriate to assume that the error terms are positively correlated over time. These are called *autocorrelated* or *serially correlated* data. The presence of serial correlation can be detected by the Durbin-Watson test and by plotting the residuals against their lags. Durbin-Watson (DW) is used to test the independent variables of errors (autocorrelation), for a level of significance of 0.05 (Nagib, Marie & Geoff, 2012). Durbin-Watson is calculated as follows:

$$DW = \frac{\sum_{j=2}^{N}(e_j - e_{j-1})^2}{\sum_{j=1}^{N} e_j^2} \quad \text{..... (13)}$$

The value of DW close to 2 or around 2 indicates the absence of autocorrelation problem (Gujarati, 2003). For result accuracy, the Durbin-Watson d value greater than 3 or less than 1 is definitely reason for concern (Khalifa & Zurina, 2013).

3.6.6.5 Heteroscedasticity Test

Heteroscedasticity test aims to test whether the regression has difference in variance from the residue between observations (Djoko, et al, 2009). This is because in a linear regression model, we assume the error term has a normal distribution with mean zero and variance of , which is called homoscedasticity (Paskah, 2007). But when the error term does not have constant variance, we call it heteroscedasticity. The Heteroscedasticity can occur if there are subpopulation differences or other interaction effects. Again, the problem arises from

violation of the assumption that no such differences exist or have already been incorporated into the model. White (1980) proposed a direct test of heteroscedasticity that does not assume any prior knowledge of what might cause it as in Goldfield-Quandt test and not sensitive to any violation of normality assumption. Under the usual assumptions we define an auxiliary equation to carry out the white test as follows:

$$\hat{\varepsilon}_i^2 = \gamma_0 + \gamma_1 X_i + \gamma_2 X_i^2 + \gamma_3 Z_i + \gamma_4 X_i^2 + \gamma_5 X_i Z_i + \varepsilon_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (14)$$

White's general test is a special case of the Breusch-Pagan test, where the assumption of normally distributed errors has been relaxed. Therefore, a good regression model, is a model of free Heteroskedastisity, to detect the presence or absence of Heteroskedastisity through looking at the scatter plot graph (Rafika and Muhamad, 2012).

3.7 Justification of the Methods and Techniques

This study utilizes both primary and secondary sources of data that were obtained from the questionnaire and published financial statements and accounts of the selected quoted insurance companies in Nigeria. This is to provide room for the assessment of determinants of insurance companies' performance in Nigeria.

Generally, regression analysis is used during the investigation of relationships between dependent and independent variables. Regression is also used to predict the value of a variable based on the value of another variable. In this study, the data to be gathered satisfies the conditions needed to apply the regression analysis for this research work. The

data to be gathered was analyzed through regression analysis for better understanding and drawing up of valid conclusion. More specifically, in this study regression analysis helped in understanding how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. Regression analysis also helped in understanding which among the independent variables is related to the dependent variable, and explored the forms of these relationships.

On the other hand, factor analysis helped to establish that the sets of questionnaire items (observed variables) are all measuring the same underlying factor (perhaps with varying reliability) and so it can be combined to form a more reliable measure of that factor. This is because factor analysis is used to find factors among observed variables. In other words, since we have data that contains many variables, we can use factor analysis to reduce the number of variables. It is also important to note that factor analysis groups variables with similar characteristics together. Therefore, with factor analysis we can produce a small number of factors from a large number of variables which is capable of explaining the observed variance in the larger number of variables. Finally, the reduced factors can also be used for further analysis.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter is devoted to the presentation, analysis and interpretation of the data collected from both primary and secondary sources of data collection. Thus, tables were used to analyze the data while regression analysis technique was used to test the hypotheses formulated for this study. In this chapter, critical assessments of the determinants of performance of quoted insurance companies in Nigeria are provided. The first section of this chapter provides summary statistics of the variables. The second section checked the multiple regression assumptions in respect of the study variables. While the third section analyses the effect of the determinants on ROA, ROE, and EPS of the insurance companies in Nigeria. During the data screening and analysis, two variables (CSZ & GRT) were affected by the issue of multicollinearity and were dropped in order to achieve the objectives of this research work.

4.2 Statistical Tests

Multicollinearity tests, normality test, check for outliers and heteroscedasticity test are among other important tests that were conducted to check the basic assumptions of multiple regressions. One of the ways that these assumptions can be checked is by inspecting the residuals scatter plot and the Normal Probability Plot of the regression standardized residuals that were requested as part of the analysis. These are presented at the end of the output. The results of the tests are given bellow:

4.2.1 Stationarity Test

One of the assumptions of multiple regressions is that if the variables in the regression model are not stationary, the usual "*t*-ratios" will not follow a *t*-distribution, so we cannot validly undertake hypothesis tests about the regression parameters. Then it can be proved that the standard assumptions for asymptotic analysis will not be valid. In order to validly test the hypotheses of this study, Augmented Dickey Fuller unit root test was conducted.

Table 4.1

Augmented Dickey Fuller test statistic

Variables	t-statistic				Prob.
	ADF	1% level	5% level	10% level	
ROA	-9.075914	-3.471454	-2.879494	-2.576422	0.0000
ROE	-8.709427	-3.471454	-2.879494	-2.576422	0.0000
EPS	-7.944725	-3.471454	-2.879494	-2.576422	0.0000
CAG	-4.366446	-3.471454	-2.879494	-2.576422	0.0005
LEV	-8.841538	-3.471454	-2.879494	-2.576422	0.0000
ATG	-5.162456	-3.471454	-2.879494	-2.576422	0.0000
LIQ	-7.704269	-3.471719	-2.879610	-2.576484	0.0000
GWP	-11.459240	-3.471454	-2.879494	-2.576422	0.0000
SLV	-6.182932	-3.471454	-2.879494	-2.576422	0.0000
EQT	-6.295998	-3.471454	-2.879494	-2.576422	0.0000

Source. Result computed from secondary data, 2015

Table 4.1 shows the results of the unit root tests of the series in respect to ROA, ROE, EPS, CAG, LEV, ATG, LIQ, GWP, SLV and EQT at 1%, 5% and 10% level of confidence. These series were found non-stationary on the basis of the augmented Dickey-Fuller statistic. If t-statistic value of ADF model is less than test critical values at 1%, 5% and 10%, then this means shocks are not present in the model. Therefore, from the above

table t-statistic values of ADF model are -9.07, -8.70, -7.94, -4.36, -8.84, -5.16, -7.70, -11.45, -6.18 and -6.29 ROA, ROE, EPS, CAG, LEV, ATG, LIQ, GWP, SLV and EQT which are less than test critical values at 1%, 5% and 10%, hence, we can conclude that shocks have been removed from these models and confirmed that the series were non-stationary.

4.2.2 Multicollinearity Test

It is important to investigate multicollinearity problem before running the regression. This is because Collinearity (or multicollinearity) is the undesirable situation where the correlations among the independent variables are strong. In other words, multicollinearity misleadingly inflates the standard errors. Thus, it makes some variables statistically insignificant while they should be otherwise significant. Therefore, the correlations between the variables in the study models are provided in table 4.3a and 4.3b respectively.

Table 4.2a

Correlation matrix for coefficient estimates

VARIABLE	CONSTANT	CAG	LEV	ATG	LIQ	GWP	SLV	EQT
CONSTANT	**1.000**							
CAG	0.058	**1.000**						
LEV	-0.265	-0.324	**1.000**					
ATG	-0.396	0.051	0.000	**1.000**				
LIQ	-0.071	0.160	0.151	-0.013	**1.000**			
GWP	0.032	0.092	0.132	0.046	-0.045	**1.000**		
SLV	-0.053	-0.144	0.298	-0.080	-0.266	0.117	**1.000**	
EQT	-0.995	-0.125	0.250	0.360	0.045	-0.065	0.026	**1.000**

Source. Result computed from secondary data, 2015

Table 4.2a shows estimated correlations between the coefficients in the fitted model. These correlations can be used to detect the presence of serious multicollinearity, i.e., correlation amongst the predictor variables. In this case, there is no correlation with absolute values greater than 0.5 (not including the constant term). The highest positive value is 0.360 which belongs to ATG and EQT while the least negative number is -0.324 which belongs to CAG and LEV, meaning that the result from correlation matrix analysis revealed the absence of multicollinearity. Therefore, all variables will be retained.

Table 4.2b

Correlation matrix for coefficient estimates

Variables	**Economical**	**Environmental**	**Technological**
Economical	**1.000**		
Environmental	.335	**1.000**	
Technological	.360	.215	**1.000**

Source. Result computed from secondary data, 2015

In the case of external determinant predictors, table 4.2b shows the highest positive value is 0.360 which belongs to technological and economical variables. This means that there is no correlation with absolute values greater than 0.70. Therefore, the final result from correlation matrix analysis revealed the absence of multicollinearity, therefore, all variables will be retained.

Table 4.3a

Collinearity Statistics panel data

Variables	CAG	LEV	ATG	LIQ	GWP	SLV	EQT
Tolerance	0.823	0.694	0.844	0.822	0.935	0.801	0.792
VIF	1.215	1.441	1.185	1.216	1.070	1.249	1.263

Source. Result computed from secondary data, 2015

Collinearity diagnostics is also a part of the multiple regression procedure for checking multicollinearity that may not be evident in the correlation matrix. Table 4.3a presented the values with regards to Tolerance and VIF (Variance inflation factor). If this value of tolerance is very small (less than .10), it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity, while the other value given is the VIF. If VIF value is very high (above 10) would be a concern here, indicating multicollinearity. These values, however, still allow for quite high correlations between independent variables (above .9). In this case the least tolerance value for independent variable is 0.694 (LEV), which is greater than 0.10; therefore, we have not violated the multicollinearity assumption. This is also supported by the highest VIF value, which is 1.441 (LEV), which is well below the cut-off of 10. These results are not surprising, given that the Pearson's correlation coefficient between these two independent variables was only 0.080 (see Correlations table).

Table 4.3b

Collinearity Statistics for survey data

Variables	ECO	ENV	TEC
Tolerance	0.801	0.878	0.860
VIF	1.249	1.140	1.162

Source. Result computed from secondary data, 2015

Table 4.3b presents the values in respect to Tolerance and VIF (Variance Inflation Factor). In this case, the least tolerance value for independent variable is 0.801, which is greater than 0.10; therefore, we have not violated the multicollinearity assumption. This is also supported by the highest VIF value, which is 1.249 (ECO), which is well below the cut-off of 10.0

4.2.3 Normality Test

One of the assumptions of linear regression analysis is that the residuals are normally distributed. It is important to meet this assumption for the p-values for the t-tests to be valid. In this study, we performed normality tests in respect to ROA, ROE, EPS and PER as follows:

a) Normality test of ROA

Table 4.4 shows the results of tests run to determine whether ROA can be adequately modeled by a normal distribution. The null hypothesis of the test is stated as; **H_0:** There is no difference between the observed data distribution and a normal distribution.

Table 4.4

Test of Normality (ROA)

Test	**Shapiro-Wilk W**		**Descriptive**	
	Statistic	P-value (Sig.)	Stnd. Skewness	Stnd. Kurtosis
ROA	0.982	0.053	-0.058	-0.536

Source. Result computed from secondary data, 2015

The Shapiro-Wilk tests can be used to test the hypothesis that the distribution is normal. The test is based upon comparing the quantiles of the fitted normal distribution to the

quantiles of the data. If the **Significance** value of the Shapiro-Wilk Test is greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution. In this case table 4.4 shows that the P-value of the test equals 0.053. Since the P-value for this test is greater than 0.05, we accepted the idea that ROA comes from a normal distribution with 95% confidence level.

The descriptive statistics values of normality test outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate any statistical test regarding the standard deviation. In this case, the standardized skewness value (-0.058) is within the range expected for data from a normal distribution. The standardized kurtosis value (-0.536) also is within the range expected for data from a normal distribution.

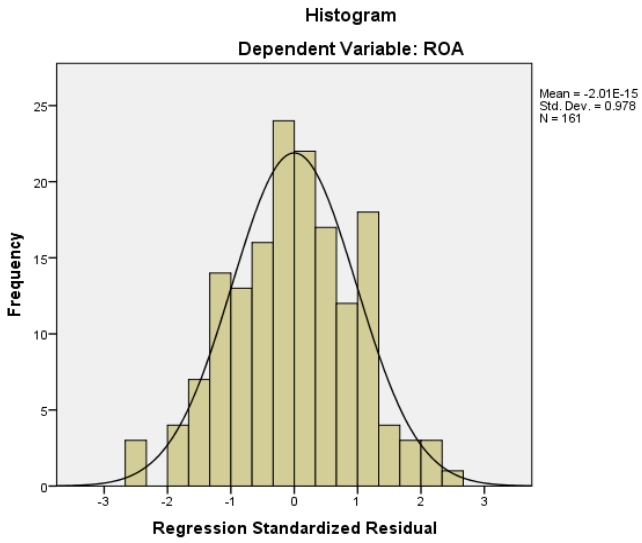


Fig. 4.1. Histogram of ROA

In order to determine normality graphically, we used histogram, in addition to the formal tests for normality. The condition is that when a histogram's shape approximates a bell-

curve, it suggests that the data may have come for a normal population. In this case, figure 4.1 shows that the ROA appears to be reasonably normally distributed.

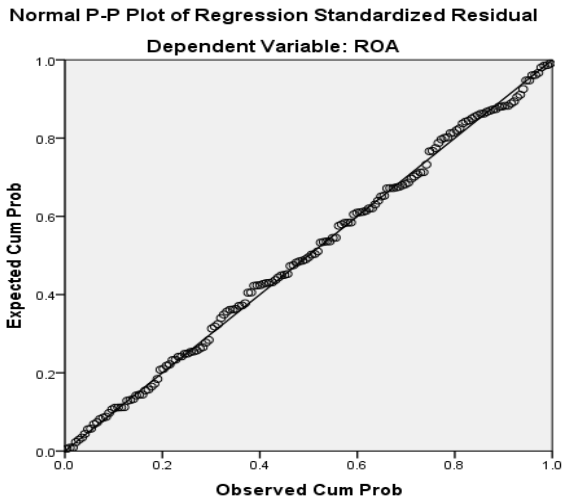


Fig.4.2. Normal P-P Plot of ROA

We also used the output of a normal P-P Plot. The condition is that if the data are normally distributed, the data points will be close to the straight diagonal line from bottom left to top right. If the data points stray from the line in an obvious non-linear fashion, the data are not normally distributed. As we can see from figure 4.2 (normal P-P plot), the data is normally distributed.

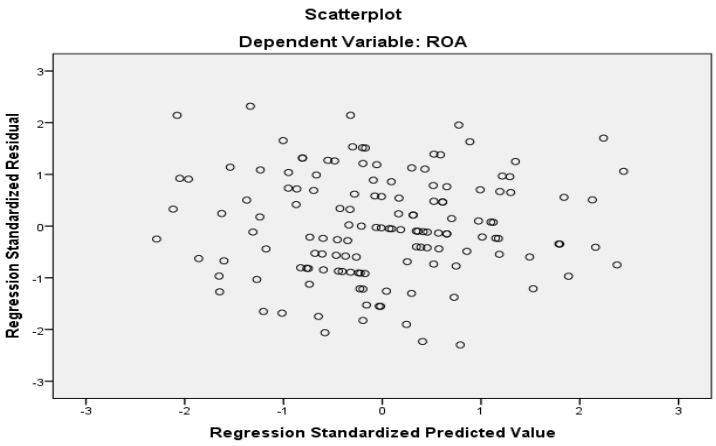


Fig.4.3. Scatter plot of ROA

In the Scatter plot of the standardized residuals we are hoping that the residuals will be roughly rectangularly distributed, with most of the scores concentrated in the centre (along the 0 point). Deviations from a centralized rectangle suggest some violation of the assumptions. The presence of outliers can also be detected from the Scatter plot. Tabachnick and Fidell (2001) define outliers as cases that have a standardised residual (as displayed in the scatterplot) of more than 3.3 or less than –3.3. In this case figure 4.3 shows that the residuals are centralized along zero point and within 3.0 to -3.0 of the scatter plot, indicating the absence of outliers in the data.

b) Normality Test of ROE

Table 4.5 shows the results of tests run to determine whether ROE can be adequately modeled by a normal distribution. The null hypothesis of the test is stated as; **H_0:** The observed distribution fits the normal distribution. A significant result indicates non-normal data (a value less than 0.05) then, the hypothesis is rejected. If the value is greater than 0.05 then the hypothesis is accepted meaning that the data is normally distributed.

Table 4.5

Test of Normality (ROE)

Test	**Shapiro-Wilk W**		**Descriptive**	
	Statistic	P-value (Sig.)	Stnd. Skewness	Stnd. Kurtosis
ROE	0.983	0.082	0.064	-0.574

Source. Result computed from secondary data, 2015

Table 4.5 shows the results of tests run to determine whether ROE can be adequately modeled by a normal distribution. The P-value of the test equals 0.082, meaning that the P-value for this test is greater than 0.05, therefore, we accepted that ROE comes from a normal distribution with 95% confidence level. The descriptive statistics values of normality test outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate any statistical test regarding the standard deviation. In this case, the standardized skewness value (0.064) is within the range expected of data from a normal distribution. The standardized kurtosis value (-0.574) also is within the range expected of data from a normal distribution.

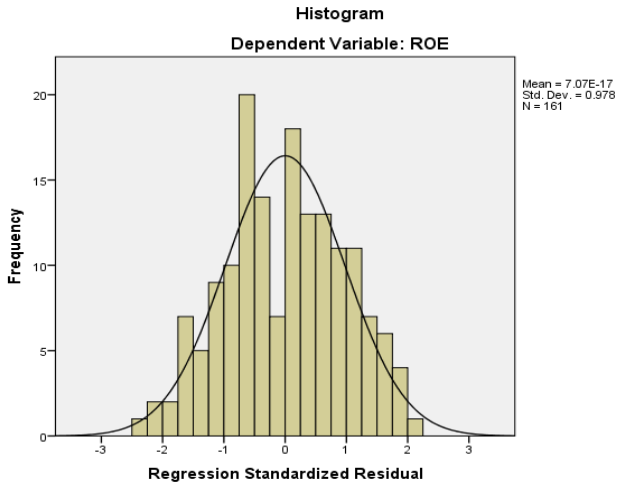


Fig. 4.4 Histogram of ROE

In addition to the formal tests for normality, we also examined the data graphically through histogram. The condition is that when a histogram's shape approximates a bell-curve it suggests that the data may have come for a normal population. In this case the figure 4.4 shows that the ROE appears to be reasonably normal distributed.

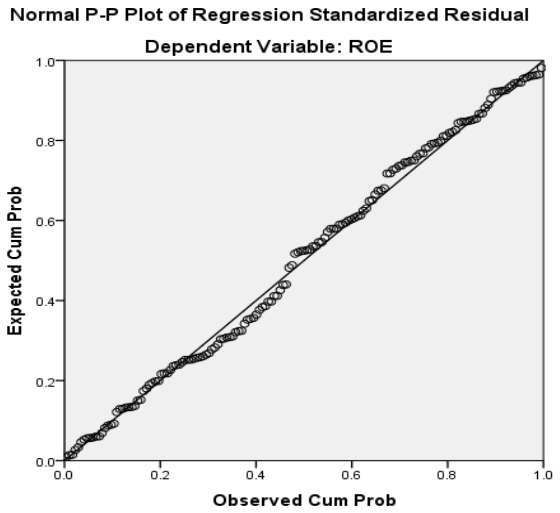


Fig.4.5 Normal P-P Plot of ROE

The histogram is also supported by an examination of the normal probability plots. In these plots (labeled Normal P-P Plots of ROE), the observed value for each company is plotted against the expected value from the normal distribution. A reasonably straight line suggests a normal distribution. As we can see from figure 4.5 (normal P-P plot), the data is normally distributed.

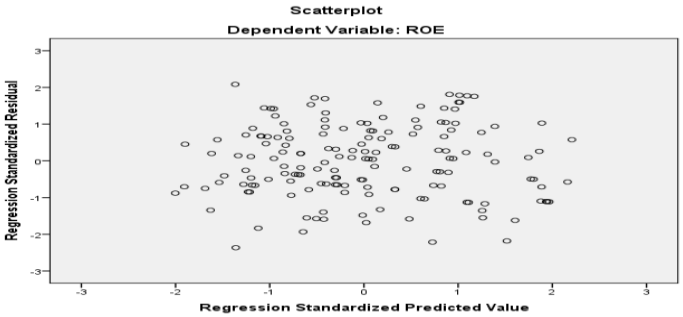


Fig.4.6 Scatter plot of ROE

Fig. 4.6 is the Scatter plot of the standardized residuals showing the absence of outliers. The presence of outliers can also be detected from the Scatter plot. Tabachnick and Fidell (2001) define outliers as cases that have a standardised residual (as displayed in the scatterplot) of more than 3.3 or less than –3.3. In this case figure 4.6 shows that the residuals centralized along zero point and within 3.0 to -3.0 of the scatter plot, indicating the absence of outliers in the data.

c) Normality Test of EPS

Table 4.6 shows the results of tests run to determine whether EPS can be adequately modeled by a normal distribution. The null hypothesis of the normality test is stated as; **H_0:** The observed distribution fits the normal distribution. If we accept the hypothesis (a value greater than 0.05) we accept/assume normality because the test is insignificant.

Table 4.6

Test of Normality (EPS)

Test	**Shapiro-Wilk W**		**Descriptive**	
	Statistic	P-value (Sig.)	Stnd. Skewness	Stnd. Kurtosis
EPS	0.985	0.136	0.162	-0.218

Source: Result computed from secondary data, 2015

Table 4.6 shows the results of tests run to determine whether EPS can be adequately modeled by a normal distribution. The P-value of the test equals 0.136. Since the P-value for this test is greater than 0.05, we cannot reject the idea that EPS comes from a normal distribution with 95% confidence. The descriptive statistics values of normality test outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate any statistical test regarding the standard deviation. In this case, the standardized skewness value (0.162) is within the range expected for data from a normal distribution. The standardized kurtosis value (-0.218) also is within the range expected of data from a normal distribution.

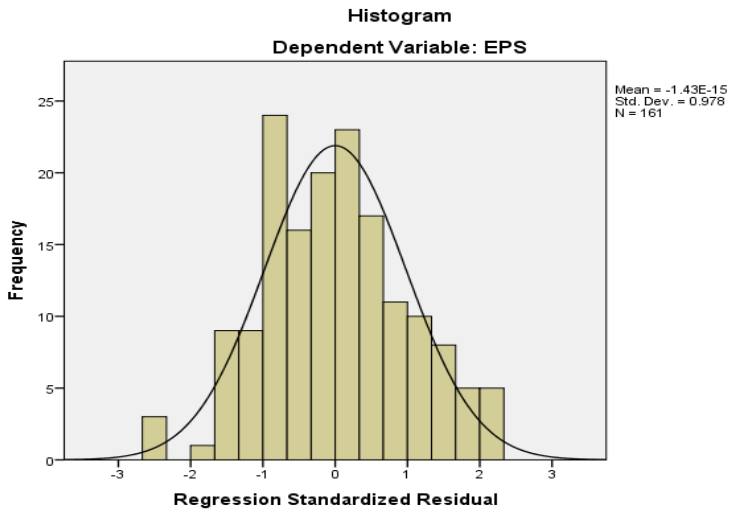


Fig. 4.7 Histogram of EPS

We also examined the data graphically in addition to the formal tests for normality. The condition is such that when a histogram's shape approximates a bell-curve, it suggests that the data may have come for a normal population. In this fig. 4.7 shows that the EPS appears to be reasonably normally distributed.

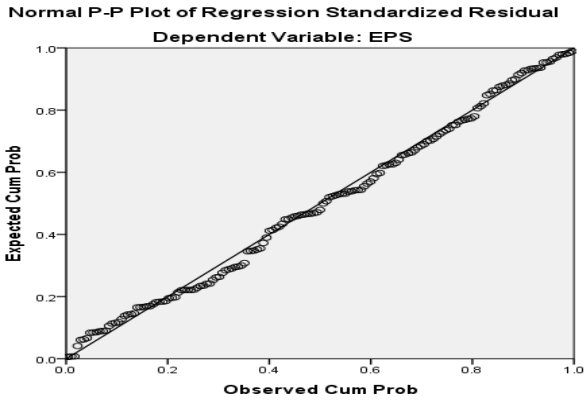


Fig.4.8 Normal P-P Plot of EPS

The histogram is also supported by an inspection of the normal probability plots. Fig. 4.8 shows that in the plots (labeled Normal P-P Plots of EPS), the observed value for each company is plotted against the expected value from the normal distribution. A reasonably straight line suggests a normal distribution. We used examine command to look at the normality of these residuals. All the results from examine command suggest that the residuals are normally distributed; the skewness and kurtosis are near 0, the "tests of normality" are not significant, the histogram looks normal, and the P-P plot looks normal. Based on these results, the residuals from this regression appear to conform to the assumption of being normally distributed.

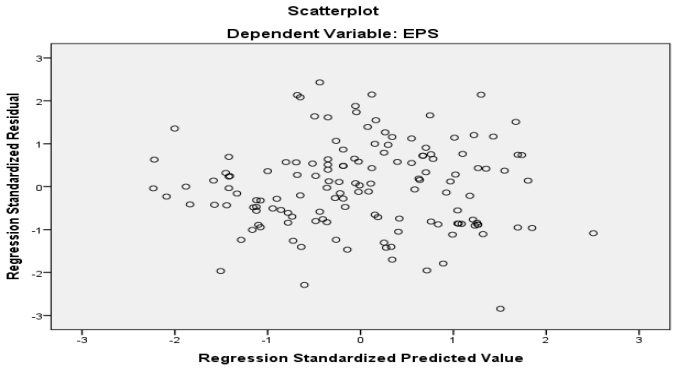


Fig.4.9 Scatter plot of EPS

The presence of outliers can also be detected from the Scatter plot. Tabachnick and Fidell (2001) define outliers as cases that have a standardised residual (as displayed in the scatterplot) of more than 3.3 or less than –3.3. In this case figure 4.9 shows that the residuals centralized along zero point and within 3.0 to -3.0 of the scatter plot, indicating the absence of outliers in the data.

d) Normality Test of PER

Table 4.7 shows the results of tests run to determine whether PER can be adequately modeled by a normal distribution. The null hypothesis of the normality test is stated as; **H_0:** The observed distribution fits the normal distribution. An insignificant test means the sample distribution is shaped like a normal curve, and the hypothesis is accepted.

Table 4.7

Test of Normality (PER)

Test	**Shapiro-Wilk W**		**Descriptive**	
	Statistic	P-value (Sig.)	Stnd. Skewness	Stnd. Kurtosis
PER	0.985	0.128	0.710	-0.402

Result computed from secondary data, 2015

Table 4.7 shows the results of tests run to determine whether PER can be adequately modeled by a normal distribution. The P-value of the test equals 0.128. Since the P-value for this test is greater than 0.05, we cannot reject the idea that PER comes from a normal distribution with 95% confidence. The descriptive statistics values of normality test outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate any statistical test regarding the standard deviation. In this case, the standardized skewness value (0.185) is within the range expected of data from a normal

distribution. The standardized kurtosis value (-0.308) also is within the range expected for data from a normal distribution.

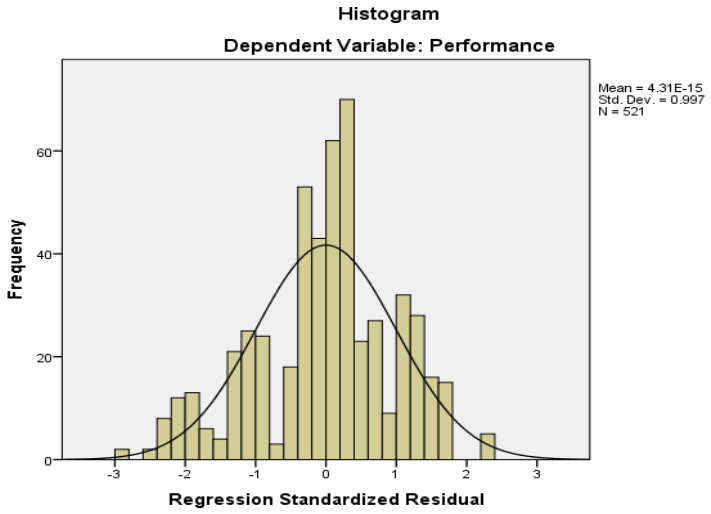


Fig. 4.10

We also examined the data graphically in addition to the formal tests for normality. The condition is that when a histogram's shape approximates a bell-curve, it suggests that the data may have come for a normal population. In this case the PER appears to be reasonably normally distributed.

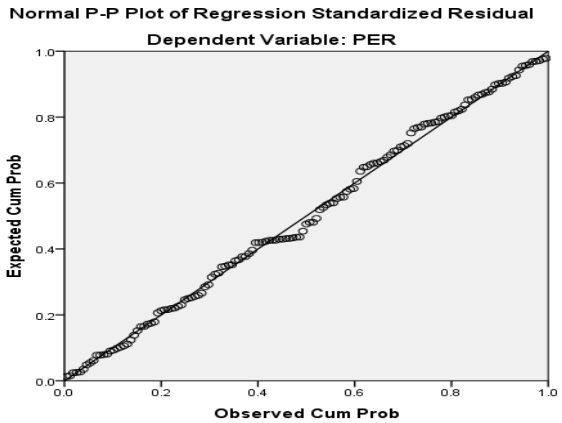


Fig.4.11 Normal P-P Plot of PER

The histogram is also supported by an inspection of the normal probability plots. FIG. 4.11 which shows that the plots (labeled Normal P-P Plots of PER) observed value for each company is plotted against the expected value from the normal distribution. All the results from examine command suggest that the residuals are normally distributed; the skewness and kurtosis are near 0, the "tests of normality" are not significant, the histogram looks normal, and the P-P plot looks normal. Based on these results, the residuals from this regression appear to conform to the assumption of being normally distributed.

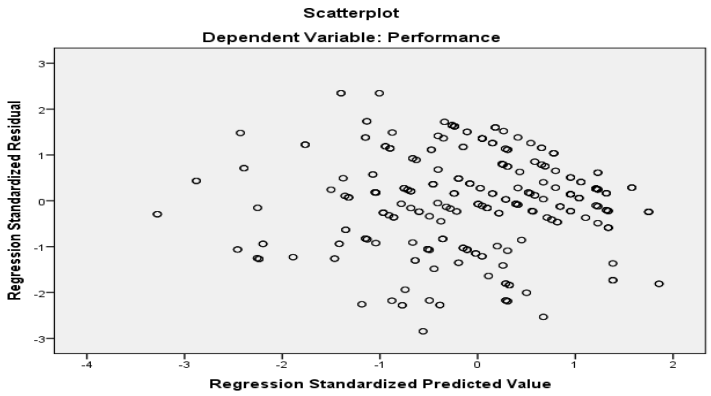


Fig.4.12 Scatter plot of PER

We performed a scatter plot in order to see if the assumptions are met, because the presence of outliers can also be detected from the Scatter plot. Tabachnick and Fidell (2001) define outliers as cases that have a standardised residual (as displayed in the scatterplot) of more than 3.3 or less than –3.3. In this case, figure 4.12 shows that the residuals are centralized along zero point and within 3.0 to -3.0 of the scatter plot, indicating the absence of outliers in the data.

4.2.4 Heteroscedasticity test

In linear regression model we assume that the error term has a normal distribution with mean zero and constant variance of the error term (the result of heteroskedasticity test will be statistically insignificant). The null hypothesis for the white test is stated as ***H_0:*** *Homoscedasticity*. Therefore, a significant test means the hypothesis is rejected, meaning that there is Heteroscedasticity (the error term is normal distributed with mean O, but the variance of the error term differs across observations).

Table 4.8

Heteroskedasticity test: White

ROA	*F-statistic*	*1.770404*	*Probability*	*0.097*
	*Obs*R-squared*	*12.06367*	*Probability*	*0.099*
ROE	*F-statistic*	*1.347733*	*Probability*	*0.232*
	*Obs*R-squared*	*9.350839*	*Probability*	*0.228*
EPS	*F-statistic*	*1.050545*	*Probability*	*0.398*
	*Obs*R-squared*	*7.383451*	*Probability*	*0.390*
PER	*F-statistic*	*2.081012*	*Probability*	*0.310*
	*Obs*R-squared*	*28.25891*	*Probability*	*0.273*

Source: Result computed from secondary data, 2015

Table 4.8 presents the test of heteroskedaticity with p-values of Obs*R-square as 0.099, 0.228, 0.390 and 0.273 in respect to ROA, ROE, EPS and PER respectively. The result shows that the residuals of ROA, ROE, EPS and PER regression models have constant variance, since the p-values are greater than 0.05 level of significance. This means that the residuals are homoscedastic which is desirable. The result also indicated that the problem of Heteroscedasticity has been solved by the GLS analysis.

4.2.5 Serial Correlation Test

Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in the data file. The hypothesis is stated thus; **H_0:** Residuals from Ordinary Least-Squares Regression are not autocorrelated. If the result is 2 or near 2 we accept the null hypothesis indicating non autocorrelation.

Table 4.9

Durbin-Watson statistical value

Statistics	**H_1**	**H_2**	**H_3**	**H_4**
Durbin-Watson	1.9142	2.1809	1.9942	2.0671
P-value	0.0911	0.0702	0.0820	0.0592

Source. Result computed from secondary data, 2015

From table 4.9 the Durbin-Watson statistical value for ROA, ROE, EPS and PER stood at 1.936, 1.968, 1.904 and 1.967 respectively. The table also reveals the insignificant p-values of 0.091, 0.070, 0.082 and 0.059 for ROA, ROE, EPS and FER respectively. The result of the study indicated that the residuals of ROA, ROE, EPS and PER of regression model are not serially correlated at the higher order since the P-values for all the dependent variables are greater than 5% (0.05), meaning that there is no indication of serial correlation at the 95.0% confidence level.

4.2.6 Factor Analysis Test

The rule for factor analysis to be appropriate is that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value must be 0.6 (60%) or above. Secondly, the Barlett's test of sphericity value should be significant (i.e. 0.05 or smaller).

Table 4.10

KMO and Bartlett's Test for dependent and independent variables

KMO and Bartlett's Test	**IV**	**DV**
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.700	0.838
Bartlett's Test of Sphericity Approx. Chi-Square	853.288	984.573
Sig.	.000	.000

Source. Result computed from secondary data, 2015

In this case table 4.10 shows that the KMO of independent and dependent variables stood at 0.700 and 0.838 respectively. The Barlett's test of sphericity gives the approximate chi-square of independent and dependent variables of 853.28 and 984.537 respectively. The significance values for independent and dependent variables stood at 0.000 and 0.000 level of significance respectively, meaning that the factor analysis is appropriate. During the analysis, twelve (12) items (ENV1, ENV2, ENV3, ENV4, ENV5, TEC1, TEC2, TEC3, TEC4, TEC5, ECO1 and POL3) were overlapped with the other variables meaning that the relationship between variables was detected.

In addition, principal component's analysis (PCA) was carried out using SPSS Version 20.0 for the items of the variables of this research work. The central idea of principal component's analysis is to reduce the dimensionality of a data set in which there are a large number of interrelated variables, while retaining as much as possible the variation present in the data set. This reduction is achieved by transforming to a new set of variables, the principal components, which are uncorrelated, and, which are ordered so that the first few retain most of the variation present in all the original variables.

A total of seventeen (POL1, POL2, POL3, POL4, POL5, ECO2, SOC1, SOC2, SOC3, SOC4, SOC5, TEC1, TEC4 TEC5, ENV1, ENV2 and ENV3) items were removed for various reasons, such as having low communalities value, loading less than 0.50, and cross-loading. The seventeen items deleted were indicated failure to fit well with other items in their components. Removing these items increased the total variance explained. So also, inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The three component solution explained a total of 66% of the variance. Finally, when the data for independent variables were screened and inspected, tables 4.11a and 4.11b for rotated component matrix present the five dependent variable and the remaining eight independent variables as follows:

Table 4.11a

Rotated Component Matrix[a]			
Code	Component		
	1	2	3
PER1	.814		
PER2	.809		
PER4	.791		
PER3	.764		
PER5	.738		

Source. Result computed from secondary data, 2015

In the case of dependent variable, table 4.11a also presents all the five items without any item deleted. The actor loading of these items are 0.814, 0.809, 0.791, 0.764 and 0.738 for PER1, PER2, PER3, PER4 and PER5 respectively. Table 4.11b shows that the factor loading of the items ranged from 0.707 to 0.867 for ECO1, ECO3, ECO4, ECO5, ENV4, ENV5, TEC2 and TEC3 (0.759, 0.780, 0.813, 0.807, 0.787, 0.707, 0.837 and 0.867) respectively.

Table 4.11b

Rotated Component Matrix[a]			
Code	Component		
	1	2	3
ECO4	.813		
ECO5	.807		
ECO3	.780		
ENV4		.787	
ECO1		.759	
ENV5		.707	
TEC3			.867
TEC2			.837

Source. Result computed from secondary data 2015

4.2.7 Reliability Test

Finally, reliability test for both dependent and independent variables was conducted. Reliability measures the extent to which results are consistent with time and acts as the best representation of the population under study (Joppe, 2000). Cronbach's alpha is a consistency test that reveals whether all items within the instrument measure the same thing. It is simply a measure of reliability of the questionnaire items. It is measured on the same scale as the Pearson's product-moment correlation coefficient and typically varies between 0 and 1. Although a negative value is possible, such a value indicates a scale in which some items measure the opposite of what other items measure. The closer the alpha is to 1.00, the greater the internal consistency of items in the research instrument. At a more conceptual level, the coefficient of Cronbach's alpha may be considered as the coefficient between a sincere response and all other sincere responses of the same item that are drawn randomly from the same population of interest.

Table 4.12

Reliability Test of dependent and independent variables

	Cronbach's Alpha	N of Items	Sample
PER	0.839	5	521
ECO	0.823	4	521
ENV	0.701	2	521
TEC	0.767	2	521

Source. Result computed from secondary data, 2015

From Table 4.12, the Cronbach's alpha ranges from 0.70 to 0.99 for the variables in the questionnaire used for the study, meaning that the instrument was reliable. Hence, the instrument had excellent reliability as far as internal consistency is concerned, that is, the instrument can give consistent results on the determinants of performance of insurance companies in Nigeria.

4.3 Descriptive Statistical Analysis

Table 4.13a and 4.13b show the summary of basic descriptive statistics results for each of the selected data variables which include measures of central tendency and measures of variability on dependent and independent variables of the study. The values presented and discussed are on mean, minimum, maximum and standard deviation. The objective here is to provide explanations on the basic features of the data used for both internal and external determinants of insurance companies' performance in Nigeria. The table 4.13a presented explanation on ROA, ROE, EPS, CAG, LEV, ATG, LIQ, GWP and SLV as internal determinants of performance while table 4.13b presents explanation on external determinants of insurance companies performance in Nigeria (PER, ECO, ENV and TEC).

Table 4.13a

Descriptive Statistics Results for panel data (Secondary data)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	216	0.00	0.23	0.06	0.05
ROE	216	-0.45	0.31	0.05	0.11
EPS	216	-40.00	39.48	4.80	11.67
CAG	216	14.00	55.00	30.15	12.83
LEV	216	0.02	8.46	0.75	0.93
ATG	216	0.00	0.41	0.14	0.10
LIQ	216	0.89	42.57	3.96	5.17
GWP	216	-0.84	1.99	0.24	0.43
SLV	216	0.20	12.48	2.13	1.78
EQT	216	5.95	7.19	6.74	0.21

Source. Computed from secondary data, 2015

Table 4.1a reveals that the mean value of ROA of the insurance companies in Nigeria is 0.06, meaning that 0.06k of the companies' earnings was generated from each unit of total assets. The income derived from assets ranges from 0.00k - 0.23k between companies in the sample with a standard deviation of 0.05% from the sample mean. The result also revealed that the companies were able to achieve the average earning from return on equity of 0.05k from each unit of equity. The value of return on equity ranges from -0.45k to 0.31k with the standard deviation of 0.11%. From the result of descriptive statistics in respect of earnings per share indicated that the mean stood at 4.80k with standard deviation of 11.67%. The average value of EPS of the insurance companies in Nigeria ranges from -40.00k to 39.48k. The result shows that the major contributor to the average earnings of insurance companies in Nigeria is EPS which contributes an average of 4.80k while ROA followed with an average value of 0.06k. From the result also ROE of the insurance companies in Nigeria contributes the least average earnings of 0.05k during the period of investigation.

The descriptive statistics for independent variables of the study reveals that the CAG, LEV, ATG, LIQ, GWP, SLV and EQT have their mean values of 30.15, 0.75, 0.14, 3.96, 0.24, 2.13 and 6.74 respectively. The variables' contributions range from 14.00 to 55.00, 0.02 to 8.46, 0.00 to 0.41, 0.89 to 42.57, -0.84 to 1.99, 0.20 to 12.48 and 5.95 to 7.19 for CAG, LEV, ATG, LIQ, GWP, SLV and EQT. The standard deviation of the independent variables stood at 12.83, 0.93, 0.10, 5.17, 0.43, 1.78 and 0.21 for CAG, LEV, ATG, LIQ, GWP, SLV and EQT respectively.

Table 4.13b

Descriptive Statistics Results for survey data (Primary data)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
PER	521	3.20	6.00	5.0361	.74612
ECO	521	2.75	6.00	5.0082	.61613
ENV	521	2.50	6.00	5.0940	.78126
TEC	521	2.00	6.00	4.8666	.86545

Source. Computed from secondary data 2015

The descriptive statistics for primary data presents the mean statistic for dependent variable in table 4.13b as 5.0361 with standard deviation of 0.74612. The table also presents the mean of independent variables as 5.0082, 5.0940 and 4.8666 for ECO, ENV and TEC respectively. The standard deviations for ECO, ENV and TEC as revealed are 0.61613, 0.78126 and 0.86545 respectively. The average values of dependent and independent variables ranges from 3.20 to 6.00, 2.75 to 6.00, 2,50 to 6.00 and 2.00 to 6.00 for PER, ECO, ENV and TEC respectively, meaning that all the 521 samples are within the coded range. Therefore, the output reveals that the variables were recorded correctly.

4.4 Percentage Analysis of Questionnaire Responses

The main objective of this section is to present the research findings of the study based on the data collected from respondents companies. The table 4.14 below presents the summary of result obtained from the questionnaire administered to employees of insurance companies in Nigeria.

Table 4.14

Percentage analysis of respondents

CODE	PER	%	ENV	%	ECO	%	SOC	%	TEC	%	POL	%
1	1	0.2	1	0.2	1	0.2	1	0.2	4	0.8	1	0.2
2	3	0.6	4	0.8	2	0.4	11	2.1	23	4.4	10	1.9
3	32	6.1	34	6.5	34	6.5	46	8.8	69	13.2	45	8.6
4	103	19.8	85	16.3	97	18.6	101	19.4	101	19.4	121	23.2
5	181	34.7	214	41.1	215	41.3	195	37.4	171	32.8	188	36.1
6	201	38.6	183	35.1	172	33.0	167	32.1	153	29.4	156	29.9
Total	**521**	**100.0**	**521**	**100.0**	**521**	**100.0**	**521**	**100.0**	**521**	**100.0**	**521**	**100.0**

Source: Questionnaire administered, 2015

The coding 1, 2, 3, 4, 5 and 6 represent strongly disagree, disagree, slightly disagree, slightly agree, agree and strongly agree. During the compilation of result, we have taken the average responses of items based on the code of each variable, then multiply by 100 in order to get the percentage of responses (see appendix).

4.5 Correlation Test

Table 4.15a and table 4.15b shows Pearson Product Moment Correlations between each pair of variables. These correlation coefficients range between -1 and +1 and measure the strength of the linear relationship between the variables. The second number in each location of the table is a P-value which tests the statistical significance of the estimated correlations. While the third is the number of pairs of data values used to compute each coefficient. P-values below 0.05 indicate statistically significant non-zero correlations at the 95.0% confidence level.

Table 4.15a

Correlations (Internal Determinants)

		ROA	ROE	EPS	CAG	LEV	ATG	LIQ	GWP	SLV	EQT
	Pearson Correlation	**1.000**									
ROA	Sig. (2-tailed)										
	N	216									
	Pearson Correlation	.233	**1.000**								
ROE	Sig. (2-tailed)	.003									
	N	216	216								
	Pearson Correlation	.357	.763	**1.000**							
EPS	Sig. (2-tailed)	.000	.000								
	N	216	216	216							
	Pearson Correlation	-.025	-.096	-.004	**1.000**						
CAG	Sig. (2-tailed)	.752	.226	.964							
	N	216	216	216	216						
	Pearson Correlation	-.128	-.059	-.063	.337	**1.000**					
LEV	Sig. (2-tailed)	.105	.456	.425	.000						
	N	216	216	216	216	216					
	Pearson Correlation	-.064	-.227	-.299	-.071	.045	**1.000**				
ATG	Sig. (2-tailed)	.422	.004	.000	.369	.572					
	N	216	216	216	216	216	216				
	Pearson Correlation	.004	.029	.063	-.230	-.302	.054	**1.000**			
LIQ	Sig. (2-tailed)	.964	.715	.430	.003	.000	.493				
	N	216	216	216	216	216	216	216			
	Pearson Correlation	.199	.232	.228	-.151	-.178	-.083	.072	**1.000**		
GWP	Sig. (2-tailed)	.011	.003	.004	.057	.024	.296	.364			
	N	216	216	216	216	216	216	216	216		
	Pearson Correlation	-.068	-.208	-.126	-.017	-.323	.087	.323	-.063	**1.000**	
SLV	Sig. (2-tailed)	.394	.008	.113	.827	.000	.274	.000	.428		
	N	216	216	216	216	216	216	216	216	216	
	Pearson Correlation	-.081	.263	.281	.059	-.230	-.379	-.015	.116	.010	**1.000**
EQT	Sig. (2-tailed)	.308	.001	.000	.460	.003	.000	.853	.143	.904	
	N	216	216	216	216	216	216	216	216	216	216

Source. SPSS Multiple Regression Output

Table 4.15a shows the correlations between variables in our three multiple regression models (ROA, ROE and EPS). The following pairs of variables have P-values below 0.05: ROE and ATG, ROE and GWP, ROE and SLV, ROE and EQT, EPS and ATG, EPS and GWP, EPS and EQT. This means that there are significant correlation between the above mentioned dependent and independent variables respectively.

Table 4.15b

Correlations (External Factors)

Variables		**Performance**	**Economical**	**Environmental**	**Technological**
Performance	Pearson Correlation	**1.000**			
	Sig. (2-tailed)				
	N	521			
Economical	Pearson Correlation	.597	**1.000**		
	Sig. (2-tailed)	0.00			
	N	521	521		
Environmental	Pearson Correlation	.332	.335	**1.000**	
	Sig. (2-tailed)	0.00	0.00		
	N	521	521	521	
Technological	Pearson Correlation	.513	.360	.215	**1.000**
	Sig. (2-tailed)	0.00	0.00	0.00	
	N	521	521	521	521

Source. SPSS Multiple Regression Output

From table 4.15b, it is clearly shown that all the variables are correlated with each other and the correlations are statistically significant at 5% level of significance.

4.6 Test of Hypotheses

Hypotheses (H_{01}, H_{02} and H_{03}) of the study were tested through multiple regression model via the use of panel data in order to explain the relationship between dependent variables (ROA, ROE and EPS) and on the other hand, the independent variables (CAG, LEV, ATG, LIQ, GWP, SLV and EQT). In addition, hypothesis (H_4) of the study was tested using the data from analytical survey in order to explain the relationship between dependent and independent variables of external determinants of performance of insurance companies in Nigeria. Thus, the dependent variable is PER, while the independent variables are ECO, ENV and TEC within the period of investigation.

4.6.1 Hypothesis One (H_{01})

Hypothesis one **(H_1)** observed the relationship between Dependent variable (ROA) and Independent variables (CAG, CSZ, LEV, ATG, LIQ, GWP, GRT, SLV and EQT) of insurance companies in Nigeria between 2007 to 2013. In testing this hypothesis, table 4.16 presents the summary of the model as follows:

Table 4.16

Model Summary (ROA)

Model	R	R square	Adjusted R square	Standard Error of Est.
1	0.8423	0.77883	0.73756	4.564

Source. SPSS Regression Output

Table 4.16 shows that the R-Squared statistic indicates that the model as fitted explains 77.88% of the variability in ROA. The adjusted R-squared statistic, which is more suitable

for comparing models with different numbers of independent variables, is 73.757%. The standard error of the estimate shows the standard deviation of the residuals to be 4.597.

Table 4.17

Analysis of Variance (ANOVA)

Model	Sum of Squares	Df	Mean Square	F-Ratio	P-Value (Sig.)
Regression	0.032	9	0.005	2.10	0.036
Residual	0.319	207	0.002		
Total	0.351	216			

Source. SPSS Regression Output

In order to assess the statistical significance of the result it is necessary to look in the table 4.17 (ANOVA). Table 4.17 shows the absence of committing a statistical type I error since the P-value in the ANOVA table is less than 0.05, meaning that there is a statistically significant relationship between the variables at the 95.0% confidence level.

Table 4.18

Coefficient in respect to regression model of ROA

Parameter	Estimate (β)	Standard Error	T-Statistic	P-Value
CONSTANT	0.363	0.132	2.758	0.007
CAG	0.000	0.000	0.797	0.427
LEV	-0.010	0.005	-2.179	**0.031**
ATG	-0.046	0.039	-1.203	0.231
LIQ	0.000	0.001	-0.220	0.826
GWP	0.020	0.009	2.283	**0.024**
SLV	-0.003	0.002	-1.252	0.213
EQT	-0.043	0.019	-2.256	**0.026**

Source. SPSS Multiple Regression Output

The output in table 4.18 shows the results of fitting a multiple linear regression model to describe the relationship between ROA and 7 independent variables. The equation of the fitted model is

$$ROA = 0.363 + 0.000 * CAG - 0.010 * LEV - 0.046 * ATG + 0.000 * LIQ + 0.020 * GWP - 0.003 * SLV - 0.043 * EQT$$

In determining whether the model can be simplified, we considered p-values on the independent variables in table 4.18. The multiple regression result on return on assets has positive significant relationship with GWP during the period of investigation. During this period a unit increment in GWP tends to increase ROA by 0.02 units respectively. The result also shows that return on assets has negative significant relationship with LEV and EQT of the insurance companies in Nigeria during the period of this study. From the result, an increase in ATG and EQT tends to decrease ROA by 0.010 and 0.043 units respectively. In the case of CAG, ATG, LIQ and SLV despite their positive and negative contributions, they are statistically insignificant to impact on ROA of insurance companies in Nigeria during the period of investigation.

The t-statistics values of CAG, LEV, ATG, LIQ, GWP, SLV and EQT in respect to ROA were presented as 0.797, -2.179, -1.203, -0.220, 2.283, -1.252 and -2.256 respectively. The p-values for CAG, LEV, ATG, LIQ, GWP, SLV and EQT were computed as 0.423, 0.031, 0.231, 0.826, 0.024, 0.213 and 0.026 respectively. The output of multiple regression analysis presented in table 4.18 indicated that 3 independent variables achieved the p-values less than 0.05 (5%) level of significance; while 4 independent variables achieved the p-values greater than 0.05 (5%) level of significance. Since the p-

value in ANOVA shows that the regression model is statistically significant, therefore, the study accepted the idea of statistical significant relationship between the variables under investigation, meaning that the study suggested the rejection of the null hypothesis H_1 of this study.

4.6.2 Hypothesis Two (H_{02})

Hypothesis two **(H_{02})** observed the relationship between Dependent variable (ROE) and Independent variables (CAG, LEV, ATG, LIQ, GWP, SLV and EQT) of the insurance companies in Nigeria. In testing **H_{02}**, table 4.14 gives the model summary with regard to return on equity of the companies.

Table 4.19

Model Summary (ROE)

Model	R	R square	Adjusted R square	Standard Error of Est.
1	0.709	0.8029	0.7779	0.1791

Source. SPSS Regression Output

The R-Squared statistic in table 4.19 indicates that the model as fitted explains 80.29% of the variability in ROE. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 77.79%. The standard error of the estimate shows the standard deviation of the residuals to be 0.1791. In order to assess the statistical significance of the result, it is necessary to look in the table 4.20.

Table 4.20

Analysis of Variance (ANOVA)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value (Sig.)
Model	0.316	9	0.045	4.65	0.000
Residual	1.489	207	0.010		
Total	1.805	216			

Source. SPSS Regression Output

Table 4.20 shows the p-value in the ANOVA table is 0.000, indicating the absence of committing a statistical type I error since the P-value is less than 0.05. The result also reveals that there is a statistically significant relationship between the study variables at the 95.0% confidence level.

Table 4.21

Coefficient in respect to regression model of ROE

Parameter	Estimate (β)	Standard Error	T Statistic	P-Value
CONSTANT	-0.594	0.285	-2.086	0.039
CAG	-0.001	0.001	-0.977	0.330
LEV	0.001	0.010	0.056	0.955
ATG	-0.133	0.083	-1.592	0.114
LIQ	0.002	0.002	0.978	0.330
GWP	0.042	0.019	2.208	**0.029**
SLV	-0.013	0.005	-2.600	**0.010**
EQT	0.103	0.041	2.475	**0.014**

Source. SPSS Regression Output

The output shows the results of fitting a multiple linear regression model to describe the relationship between ROE and 7 independent variables. The equation of the fitted model is

$$ROE = -0.594 - 0.001 * CAG + 0.001 * LEV - 0.133 * ATG + 0.002 * LIQ + 0.042 * GWP - 0.013 * SLV - 0.103 * EQT$$

In determining whether the model can be simplified, we considered P-values on the independent variables in table 4.21. The multiple regression result of return on equity has positive significant relationship with GWP, and EQT during the period of investigation. During this period a unit increment in GWP and EQT tends to increase ROA by 0.042 and 0.103 units respectively. The result also shows that return on assets has negative significant relationship with SLV of the insurance companies in Nigeria during the period of this study. From the result, an increase in SLV tends to decrease ROE by 0.013 units respectively.

The t-statistics values of CAG, LEV, ATG, LIQ, GWP, SLV and EQT in respect to ROA were presented as -0.98, 0.056, -1.592, 0.978, 2.208, -2.600 and 2.475 respectively. The p-values for CAG, CSZ, LEV, ATG, LIQ, GWP, GRT, SLV and EQT were computed as 0.330, 0.955, 0.114, 0.330, 0.029, 0.010 and 0.014 respectively. The output of multiple regression analysis presented in table 4.21 indicated that 3 independent variables achieved the p-values less than 0.05 (5%) level of significance; while 4 independent variables achieved the p-values greater than 0.05 (5%) level of significance. Since the p-value in ANOVA shows that the regression model is statistically significant, therefore, the study accepted the idea of statistical significant relationship between the variables under investigation, meaning that the study suggested the rejection of null hypothesis H_2 of this study.

4.6.3 Hypothesis Three (H_{03})

Hypothesis three **(H_{03})** observed the relationship between Dependent variable (EPS) and Independent variables (CAG, LEV, ATG, LIQ, GWP, SLV and EQT) of insurance

companies in Nigeria between 2007 to 2013. In testing hypothesis **(H_3)**, table 4.22 presents the summary of the model as follows:

Table 4.22

Model Summary (EPS)

Model	R	R square	Adjusted R square	Standard Error of Est.
1	0.318	0.7010	0.6558	0.123239

Source. SPSS Regression Output

The R-Squared statistic in table 4.22 indicates that the model as fitted explains 70.10% of the variability in EPS. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 65.58%. The standard error of the estimate shows the standard deviation of the residuals to be 12.3239. In order to assess the statistical significance of the result, it is necessary to look in the table 4.23 (analysis of variance).

Table 4.23

Analysis of Variance

Source	***Sum of Squares***	***Df***	***Mean Square***	***F-Ratio***	***P-Value***
Model	3870.29	9	552.899	4.720	0.0001
Residual	17918.0	207	117.111		
Total	21788.3	216			

Source. SPSS Regression Output

Table 4.23 shows the absence of committing a statistical type I error since the P-value in the ANOVA table is less than 0.05, meaning, that there is a statistically significant relationship between the variables at the 95.0% confidence level.

Table 4.24

Coefficients in respect to regression model of EPS

Parameter	Estimate (β)	Standard Error	T Statistic	P-Value
CONSTANT	-61.307	31.247	-1.962	0.052
CAG	0.018	0.074	0.241	0.810
LEV	0.055	1.099	0.050	0.960
ATG	-23.854	9.158	-2.605	**0.010**
LIQ	0.254	0.182	1.392	0.166
GWP	4.849	2.076	2.336	**0.021**
SLV	-0.869	0.536	-1.621	0.107
EQT	10.166	4.550	2.234	**0.027**

Source. SPSS Regression Output

The output shows the results of fitting a multiple linear regression model to describe the relationship between EPS and 7 independent variables. The equation of the fitted model is

$$EPS = -61.307 + 0.018 * CAG + 0.055 * LEV - 23.854 * ATG + 0.254 * LIQ + 4.849 * GWP - 0.869 * SLV + 10.166 * EQT$$

In determining whether the model can be simplified, we considered p-values on the independent variables in table 4.24. The multiple regression result of earnings per share has positive significant relationship with GWP and EQT during the period of investigation. During this period a unit increment in GWP and EQT tends to increase EPS by 4.849 and 10.166 units respectively. The result also shows that EPS has negative significant relationship with ATG of the insurance companies in Nigeria during the period of this study. From the result, an increase in ATG tends to decrease EPS by 23.854 units respectively.

The t-statistics values of CAG, LEV, ATG, LIQ, GWP, SLV and EQT in respect to EPS were presented as 2.41, 0.050, -2.605, 1.392, 2.336, -1.621 and 2.234 respectively. The p-values for CAG, CSZ, LEV, ATG, LIQ, GWP, GRT, SLV and EQT were computed as 0.810, 0.960, 0.010, 0.166, 0.021, 0.107 and 0.027 respectively. The output of multiple regression analysis presented in table 4.2 indicated that 3 independent variables achieved the p-values less than 0.05 (5%) level of significance; while 4 independent variables achieved the p-values greater than 0.05 (5%) level of significance. Since the p-value in ANOVA shows that the regression model is statistically significant, therefore, the study accepted the idea of statistical significant relationship between the variables under investigation, meaning that the study suggested the rejection of null hypothesis $\mathbf{H_{03}}$ of this study.

4.6.4 Hypothesis Four (H_{04})

Hypothesis four **(H_4)** observed the relationship between performance of insurance companies in Nigeria and external factors that determine the performance of the companies within period 2007 to 2013. In testing this hypothesis, table 4.25 presents the summary of the model as follows:

Table 4.25

Model Summary (Performance)

Model	R	R square	Adjusted R square	Standard Error of Est.	Durbin-Watson
1	0.686	0.470	0.467	0.54468	1.267

Source. SPSS Regression Output

The R-Squared statistic indicates that the model as fitted explains 47% of the variability in EPS. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 46.7%. The standard error of the estimate shows the standard deviation of the residuals to be 0.54468. In order to assess the statistical significance of the result, it is necessary to look in the table 4.26 (ANOVA).

Table 4.26

Analysis of Variance (ANOVA)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value (Sig.)
Model	136.099	3	45.366	152.914	0.000
Residual	153.383	517	0.297		
Total	289.482	520			

Source. SPSS Regression Output

Table 4.26 shows the absence of committing a statistical type I error since the P-value in the ANOVA table is less than 0.05, meaning that there is a statistically significant relationship between the variables at the 95.0% confidence level.

Table 4.27

Coefficient in respect to Performance

Parameter	Estimate (β)	Standard Error	T-Statistic	P-Value
CONSTANT	0.427	0.226	1.892	0.059
ECO	0.532	0.043	12.291	0.000
ENV	0.109	0.033	3.335	0.001
TEC	0.285	0.030	9.581	0.000

Source. SPSS Multiple Regression Output

The output in table 4.27 shows the results of fitting a multiple linear regression model to describe the relationship between performance and economic, environmental and technological factors. The equation of the fitted model is:

$$PER = 0.427 + 0.532ECO + 0.109ENV + 0.285TEC$$

In determining whether the model can be simplified, we considered p-values of independent variables in table 4.27. The multiple regression result of performance has positive significant relationship with ECO, ENV and TEC during the period of investigation. During this period a unit increment in ECO, ENV and TEC tends to increase PER by 0.532%, 0.109% and 0.285% respectively. The t-statistics values of ECO, ENV and TEC in respect to PER were presented as 12.291, 3.335 and 9.581 respectively. The p-values for ECO, ENV and TEC were computed as 0.000, 0.001 and 0.000 respectively.

The output of multiple regression analysis presented in table 4.27 indicated that all the 3 independent variables achieved the p-values less than 0.05 (5%) level of significance, meaning that the variables are statistically significant at 95% level of confidence. Therefore, the study accepted the idea that PER has significant relationship with ECO, ENV and TEC, meaning that the study suggested the rejection of null hypothesis H_{04} of this study.

4.7 Discussion of Research Findings

The output of robustness and validity tests conducted in this study revealed that the regression models on ROA satisfied the multiple regression assumptions. Therefore, the results from the analyses were adequate in explaining the relationship between study variables. In addition, the study utilizes the variables investigated empirically by previous studies around the globe and found significantly that the variables are among the determinants of the performance of insurance companies in both developed and developing countries. Although, there is limited research findings relating to performance of insurance companies in Nigerian context, but the foreign researchers have done a lot in this context. The result obtained in this study appears to be similar to the previous studies in some cases and disagree with the findings of some studies previously conducted.

Table 4.28

Variables and their Coefficients

	ROA		ROE		EPS	
Parameter	(β)	Sig.	(β)	Sig.	(β)	Sig.
CONSTANT	0.363	0.007	-0.594	0.039	-61.307	0.052
CAG	0.000	0.427	-0.001	0.330	0.018	0.810
LEV	-0.010	**0.031**	0.001	0.955	0.055	0.960
ATG	-0.046	0.231	-0.133	0.114	-23.854	**0.010**
LIQ	0.000	0.826	0.002	0.330	0.254	0.166
GWP	0.020	**0.024**	0.042	**0.029**	4.849	**0.021**
SLV	-0.003	0.213	-0.013	**0.010**	-0.869	0.107
EQT	-0.043	**0.026**	0.103	**0.014**	10.166	**0.027**

Source. SPSS Regression Output

The output from table 4.28 reveals the level of significance and contributions of determinants of insurance companies' performance in Nigeria on the performance of the insurance companies in Nigeria. The finding of the study presents the coefficient values of

CAG in relation to ROA and ROE as 0.00 and -0.00 respectively. This means that CAG has no significant contribution (neither positive nor negative) on ROA and ROE of insurance companies in Nigeria from 2007 to 2013 respectively. The findings also established the insignificant positive contribution of CAG on EPS by 0.02k during the period of investigation. It is important to note that the overall result of CAG is not significant statistically. This result contradicts the findings of Abdelkader (2014) who established a significant relationship between CAG and ROA.

In the case of LEV of insurance companies in Nigeria from 2007 to 2013, table 4.28 presents the insignificant positive coefficient values in respect to ROE and EPS as 0.00 and 0.06 respectively. This means that an increment of LEV per unit increases ROE by 0.00k and EPS by 0.06k during the period of investigation. The table also presented negative coefficient value of 0.01 in respect to ROA, meaning that any increment in LEV per unit leads to a decrease in ROA of insurance companies in Nigeria by 0.01k during the period of study. This result agrees with the findings of Charumathi (2012), Daniel and Tilahun (2013), Chen-ying (2014) and Burca and Batrinca (2014). The result also disagrees with the findings of Bawa and Chattha (2013), Eric, Samuel and Victor (2013) and Abdelkader (2014).

Table 4.28 shows the true picture of association between ATG and ROA, ROE and EPS with regard to performance of insurance companies in Nigeria within 2007 to 2013. The values presented in the table are -0.05, -0.13 and -23.85 for ROA, ROE and EPS respectively. In this case ATG has no value addition to any one of the three dependent variables (ROA, ROE and EPS). This means that a unit increment in ATG results in

decrease of ROA, ROE and EPS by 0.05k, 0.13k and 23.85k respectively. This result agrees with the findings of Abdelkader (2014).

The output of regression result in table 4.28 reveals that LIQ of insurance companies in Nigeria has insignificant positive relationship with ROA, ROE and EPS during the period under study. The findings indicated that ROA, ROE and EPS have the coefficient values of 0.00, 0.00 and 0.26 respectively. In this case, the findings of the study established that an increase of LIQ of insurance companies in Nigeria will results in an increase of ROA, ROE and EPS by 0.00k, 0.00k and 0.25k per unit. This result agrees with the findings of Charumathi (2012), Daniel and Tilahun (2013), Bawa and Chattha (2013), Eric, Samuel and Victor (2013) and Abdelkader (2014).

In addition, the output of statistical analysis in table 4.28 further reveals that GWP of insurance companies in Nigeria presents the coefficient values for ROA, ROE and EPS as 0.02, 0.04 and 4.85 respectively. The findings of the study established that a unit increment in GWP of insurance companies in Nigeria tends to significantly increase the ROA, ROE and EPS by 0.02k, 0.04k and 4.85k respectively. . This result agrees with the findings of Charumathi (2012), Abdelkader (2014) and Burca and Batrinca (2014). The result also disagrees with the findings of Daniel and Tilahun (2013) and Chen-ying (2014) who established an insignificant statistic result during the period of investigation.

Table 4.28 shows the association in terms of contribution between SLV on one hand and ROA, ROE and EPS on the other hand with regard to performance of insurance companies in Nigeria during the period of investigation. The values presented in the table are -0.00, -0.01 and -0.87 for ROA, ROE and EPS respectively. In this case, SLV has no value

addition to any one of the three dependent variables (ROA, ROE and EPS). This means that a unit increment in SLV tends to decrease the ROA, ROE and EPS by 0.00k, 0.01k and 23.87k respectively. This result agrees with the findings of Bawa and Chattha (2013).

In the case of EQT of insurance companies in Nigeria from 2007 to 2013, table 4.23 presents the positive coefficient values in respect to ROE and EPS as 0.10 and 10.17 respectively. This means that an increment of EQT per unit leads to an increases on ROE by 0.10k and EPS by 10.17k during the period of investigation. The table also presented negative coefficient value of 0.321 in respect to ROA, meaning that any increment in unit of EQT tends to decrease the ROA of insurance companies in Nigeria by 0.04k during the period of study. This result agrees with the findings of Charumathi (2012). The result contradicts the findings of Bawa and Chattha (2013) who established an insignificant statistic result between EQT and ROA at 5% level of significance

With regard to the tests of hypothesis four, table 4.27 shows a significant relationship between external determinants of insurers' performance and the performance of insurance companies in Nigeria during the period of investigation. The table also presents positive coefficients in respect to variables under study (ECO, ENV and TEC). The coefficient values are 0.53, 0.11 and 0.29 for ECO, ENV and TEC respectively. During this period, table 4.27 shows that a unit increment in ECO, ENV and TEC will lead to an increase of insurance companies' performance in Nigeria by 0.53%, 0.11% and 0.29% during the period of investigation. This result agrees with the findings of Garba and Abdussalam (2011), Abdalelah and Zaid (2011), Festus and Joseph (2011), Shojaei, Jahanifar and Tehrani (2012) and Ebitu, Ibok and Mbum (2012).

4.8 Major Findings of the Study

The financial performance of insurance companies can be analyzed at micro and macroeconomic levels, being determined both by internal factors represented by specific characteristics of the company, and external factors regarding connected institutions and macroeconomic environment. This study attempts to examine the determinants of the financial performance of insurance companies in Nigerian during the interval of 2007 – 2013. Therefore, 7 explanatory variables in respect to internal determinants were tested: CAG, LEV, ATG, LIQ, GWP, SLV and EQT. As for the dependent variable, the financial performance of the insurance companies is measured through the return on total assets ratio, return on equity ratio and earnings per share. The study also tested 3 explanatory variables: ECO, TEC and ENV in respect to external determinants.

Table 4.29

Variables and their Coefficients

		Coefficients (β)			
S/No	Variables	ROA	ROE	EPS	Aggregate
1	CAG	0.00	0.00	0.02	0.02
2	LEV	-0.01	0.00	0.06	0.04
3	ATG	-0.05	-0.13	-23.85	-24.03
4	LIQ	0.00	0.00	0.25	0.26
5	GWP	0.02	0.04	4.85	4.91
6	SLV	0.00	-0.01	-0.87	-0.89
7	EQT	-0.04	0.10	10.17	10.23

Source. SPSS Regression Output

Theoretically, a positive linkage is expected between the number of years the insurer operates in the Nigerian insurance industry and the insurer's financial performance, because the company gets a certain reputation, a greater experience and designs efficient strategies over the years. The multiple regression result in table 4.29 clearly shows the

positive relationship between CAG with ROA, ROE and EPS. So, by taking the aggregate coefficient values of all the three surrogates of financial performance (i.e. 0.00 + 0.00 + 0.02 for ROA, ROE and EPS respectively) the result will be 0.02, meaning that if CAG increases by 100%, the overall financial performance of insurance companies in Nigeria will increase by 2%. This result reveals that during the period under study older companies have competitive advantage over the younger companies especially on EPS which is expected theoretically.

The degree of financial leverage reflects insurance companies' ability to manage their economic exposure to unexpected losses. A negative linkage between the insurance financial leverage and the insurers' financial performance is expected. The output of regression result in table 4.29 established the negative linkage between LEV and ROA. The regression result clearly shows the aggregate result of coefficient values of LEV in relation to ROA, ROE and EPS as 0.04. This means that there is positive relationship between insurance leverage and financial performance of insurance companies in Nigeria which was not expected. The finding of the study clearly revealed that if an increment of 100% LEV is observed, then the financial performance of insurance companies will increase by 4%.

The relationship between asset tangibility and firm performance is expected to be positive. This is because, it is natural to expect that firms with greater tangible assets operate more efficiently and thus have better operating performance. Therefore, many literatures presented a positive relationship between asset tangibility and performance. In this study, table 4.29 shows the negative relationship between ATG on one hand and ROA, ROE and

EPS with regard to performance of insurance companies in Nigeria within 2007 to 2013. The values presented in the table are -0.005, -0.13 and -23.85 for ROA, ROE and EPS respectively. In this case the aggregate sum of coefficients is -24.03, meaning that by using the coefficient and keeping all the other variables constant, if ATG grows up by 100%, the overall performance of insurance companies in Nigeria will decline by 2,403%. Thus, it can be understood that the insurers with high fraction of plant and equipment will have adverse effect on comparative advantage. This finding validates the fact that insurance companies are the organizations that they do not need plant and heavy equipments for their financial services.

Liquidity is the ability of the insurers to fulfill their immediate commitments to policy holders without having to increase profits on underwriting and investment activities and/or liquidate financial assets. The cash reserves and bank balances are to be kept sufficient to meet the immediate liabilities towards "claims due for payment but not paid". This comfortably covers the incurred but not reported portion of claims liability. This study used the ratio of current assets to current liabilities. The regression result in Table 4.21 clearly shows that the output of hypotheses tests reveals that LIQ of insurance companies in Nigeria has insignificant positive contribution to ROA, ROE and EPS during the period of under study. The findings indicated that ROA, ROE and EPS have the coefficient values of 0.00, 0.00 and 0.25 respectively. In this case, the aggregate result is computed as 0.26. This means that if 100% increase is observed in LIQ, will lead the performance of insurance companies in Nigeria to improve by 25%. Thus, it can be understood that the more liquid firms will have more advantage in terms of performance compared to less liquid firms. Appropriate liquidity helps insurers to pay indemnity and other claims. By

this they enhance public trust, goodwill and patronage. Consequently, they improve on their performance.

The gross written premiums is expected to have a positive influence on financial performance as a result of an increased underwriting activity and market share expansion. The Premium growth of insurers is measured as a year to year change in the new premium of insurance companies. The new premium comprises of first year premium and single premium policies procured in a particular year in comparison with new premium of previous year. From the Table 4.29, it is clear that there is a positive relationship between GWP and the three dependent variables (ROA, ROE and EPS). The aggregate result is computed as 4.91, meaning that by using the coefficient and keeping all the other variables constant, if GWP grows up by 100%, the overall performance of insurance companies in Nigeria will raise 491%. Thus, it can be understood that the insurers with more premium growth will have comparative advantage.

The solvency margin is calculated as ratio of net assets to net written premiums, and represents a key indicator of the insurer's financial stability. A positive linkage between this variable and the insurer's financial performance is expected, since the insurer's financial stability is an important benchmark to potential customers. Table 4.21 shows the negative association between SLV on one hand and ROA, ROE and EPS on the other hand with regard to performance of insurance companies in Nigeria during the period of investigation. The values presented in table 4.29 are 0.00, -0.01 and -0.87 for ROA, ROE and EPS respectively. In this case the aggregate result will be -0.89. This means that an increment of 100% in SLV will tend to decrease the overall performance of insurance

companies in Nigeria by 89%. The findings of the study also revealed that an increase in SLV rate will negatively affect the performance of insurance companies in Nigeria.

With regard to equity, it is measured through decimal logarithm of total equity where positive connection between the volume of equity and insurers' financial performance is expected, given that a greater flow of equity generates a better financial stability and the possibility of expanding the business. In Nigeria, recapitalization regime requires insurance companies to hold adequate equity by properly determining their technical reserves, solvency capital and minimum capital bases. Further, more capital influx will enable the players to expand and open new branches, which in turn will incur more operating expenses. In this case, the aggregate result of 3 multiple regression models; table 4.29 presents the positive coefficient values in respect to ROA ROE, and EPS as 10.23. This means that if 100% increment of EQT is achieved, the financial performance of insurance companies will increase by 1023% during the period of investigation. Thus, the study revealed that the insurers with more capital adequacy will have comparative advantage to improve performance.

In the case of external determinants of insurers' performance which includes ECO, ENV, and TEC, positive relationship is expected between these variables and performance of insurance companies in Nigeria. Table 4.27 shows that all the 3 variables have positive significant impact on the performance of insurance companies in Nigeria. The table therefore, presents 0.53, 0.11 and 0.29 for ECO, ENV and TEC respectively. This means that if ECO, ENV, and TEC increase by 100%, the financial performance of insurance companies will achieve an increase of 53% from economic factors, 11% from environmental factors and 29% from technological factors.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Insurance companies in Nigeria remain one of the important components of financial services in Nigeria. Their role in enhancing economic development and stimulating economic growth cannot be over emphasized. Since insurance sector has links to sectors such as industrial, transportation, agriculture, mining, petroleum and trade both locally and internationally, its relevance to general human activities has continued to grow for all ages as all categories of risks increase. Based on that, in the past years Nigerian Government in collaboration with NAICOM introduced several reforms in order to enhance the operating performance of the companies. Besides, official reports reveal that the Nigerian insurance companies contribute only 0.3% of overall GDP in 2014 in terms of the value of gross premiums written. This brought the attention of the scholars and other practitioners on the need to investigate the determinants of insurance companies in Nigeria and it is the objective of this study.

This study investigated the significant contribution of some internal and external determinants of insurance companies' performance in Nigeria. The study also investigated the level of contribution made by each of the determinants on return on assets, return on equity and earnings per share. The internal determinants include company's age, company's size, leverage, assets tangibility, liquidity, growth written premium, growth rate, solvency and equity. The study also collected information from respective staff of insurance companies and analyzed the information in order assess the external determinants of insurance companies' performance in Nigeria. The external determinants

this study aimed to investigate include political, economical, social, technological and environmental factors.

In this study, panel data was used in an attempt to assess the determinants of insurance companies' performance in Nigeria. The study also used regression equations to predict and explain negative or positive significant effect of independent variables on the dependent variables. Based on that, four regression equations were formulated for the purpose of testing first, second, third and forth null hypotheses in respect of ROA, ROE, EPS and PER respectively. Regression equations for hypotheses one, two and three hypothesis utilized the data obtained from financial annual report of the companies published in the Nigerian Stock Exchange Fact Book from 2007 to 2013, while the forth hypothesis utilized the primary data collected from respective staff of insurance companies in Nigeria through structured questionnaire.

In an attempt to test the multiple regression assumptions, robustness and validity tests were conducted. The result of stationarity tests shows that the unit root tests of the series conducted found the variables non-stationary on the basis of the ADF statistic at 1%, 5% and 10% level of confidence. During the data analysis we found high level of correlation in company size and growth rate, meaning that multicollinearity exists. With high correlation, there is large standard error which leads to rejection of relationships which may be true. So, we dropped company size and growth rate since the first reaction to multicollinearity is to drop predictors that have high level of correlation values. Finally, the result from correlation matrix analysis shows the absence of multicollinearity, therefore, all the remaining seven variables were retained. Normality tests were also conducted in order to

determine whether the regression equations can be adequately modeled by normal distribution. From the findings of the study, we found graphically and mathematically that the independent variables appear to be normally distributed.

The result also shows that the problem of Heteroscedasticity has been solved by the GLS analysis. In the case of serial correlation, the result indicated an absence of serial correlation or autocorrelation, meaning that the residuals are constant and normally distributed as required by the multiple regression assumption. Factor analysis and reliability tests were also conducted in order to simply measure the reliability of the questionnaire. Both KMO and Bartlett's test were statistically significant at 5%, meaning that the factor analysis is appropriate. The Cronbach's alpha ranges within 0.70 - 0.99, meaning that as far as internal consistency is concerned the instruments are reliable.

From the result of hypothesis one, the coefficients indicated that only LEV, GWP and EQT are statistically significant, while CAG, ATG, LIQ and SLV are not significant at 5% significance level. The result further shows that LEV and EQT were negatively related to ROA while GWP was positively related to ROA. In the case of the result of hypothesis two, the p-values obtained shows that GWP, SLV and EQT are statistically significant at 5% significance level while CAG, LEV, ATG and LIQ are not significant. When looking at coefficient estimate we can understand that GWP and EQT are positively related to ROE while SLV is negatively related to ROE.

The result of hypothesis three shows that, ATG, GWP and EQT of insurance companies in Nigeria are statistically significant at significant at 5% significance level, while CAG,

LEV, LIQ and SLV are not statistically significant. The result also shows that GWP and EQT are positively related to EPS while ATG is negatively related to EPS during the period of investigation. Finally, hypothesis four indicated that ECO, ENV and TEC are positively related to PER and they are statistically significant.

5.2 Conclusion

The overall result of this study improves the understanding of determinants of insurance companies in Nigeria by providing useful information to insurance companies, investors, regulators and supervisory authorities. The findings of this study revealed that the variables used in this study to investigate the determinants of insurance companies' performance in Nigeria are similar to those used in other developing and developed countries as predicted by existing theories of performance. The findings of the study established the statistical significant relationship between three independent variables (ROA, ROE and EPS) and seven independents variables (CAG, LEV, ATG, LIQ, GWP, SLV and EQT) respectively. Since the p-values in the ANOVA tables are less than 0.05 the study therefore, suggested the rejection of null hypotheses one, two and three. In the case of hypothesis four the study also established a significant relationship between PER as dependent variable and three independent variables (EOC, ENV and TEC). The study therefore, accepted the rejection of null hypothesis four since the p-value in the ANOVA table is less than 0.05 during investigation.

The variables used in testing hypothesis one, two and three and considered most important are; equity (β=10.23), growth written premium (β=4.91), liquidity (β=0.26), leverage (β=0.04), company's age (β=0.02), solvency (β=-0.89) and assets tangibility (β=-24.03). In

the case of variables used to test the hypothesis four and rated according to their contributions are; economical factors (β=0.53), technological factors (β=0.29) and environmental factors (β=0.11). Based on the findings of the study, it can be concluded that all the variables that have been considered during the analysis are important but they have been rated differently based on their aggregate contribution. In this case equity make strongest contribution which contradicted the general opinion that Gross written premium is the major determinant of insurance companies' performance.

5.3 Limitations of the study

Research undertakings are usually associated with some limitations. This study is only limited by the amount and quantity of data collected. As mentioned in the study, all listed insurance companies made up the population of the study. It was our objective to use 100% of the population. But, due to the non-availability of published financial reports of some listed insurance companies in Nigeria, the study was forced to use those listed insurance companies with available financial data in either their official websites or Fact Book of the Nigerian Stock Exchange.

The accounting ratios used in this study have their different operational definitions among scholars. Therefore, the interpretation of the findings of the study was restricted within the operational definitions adopted. The findings from the study are generalized even though only twenty seven out of the total thirty of them were used. The results, therefore, are based on the findings from the assessment of the twenty seven listed insurance companies in Nigeria.

5.4 Recommendations

In order to ensure that the insurance companies in Nigeria will continue to perform significantly, the following recommendations are proffered based on the findings of the study.

i. From the findings of the study equity capital has the highest value in terms of aggregate contribution to the performance of insurance companies in Nigeria. It is therefore, recommended that stakeholders in the Nigerian insurance industry in collaboration with their regulatory body; National Insurance Commission (NAICOM) should consider further consolidation in the Nigerian insurance industry. This is because if Nigerian insurance companies merge or recapitalize, they will be big enough to underwrite big businesses and also to have the requisite capacity to deepen insurance across the country.

ii. Insurance companies in Nigeria in collaboration with the Federal Government of Nigeria should employ appropriate strategies aimed at increasing their investment and revenue base. This will be achieved by implementing/enforcing the compulsory insurance of all public buildings as well as those under construction; and compulsory insurance of all states and local governments to enroll their employees in the National Health Insurance Scheme. By doing this, equity capital and growth written premiums of the insurance companies will be increased, since equity capital can improve through investment and profits.

iii. National Insurance Commission, insurance brokers and underwriters should try as much as possible to develop retail insurance, micro insurance and ethical insurance.

By doing this, it will provide room for raising funds that will be used for operation and settlement of claims. Provided that the claims have been established, the procedure of settlement should be simple, prompt and readily accessible. This will attract more people to insure their properties and lives, which would increase the premium income and general earnings of the insurance companies.

iv. From the findings of the study assets tangibility contributed negatively to the performance of insurance companies in Nigeria. This finding validated the fact that insurance companies do not require large volume of fixed assets which is contrary to manufacturing companies. What they need is to make sure that they have available funds in the event of loss suffered by anyone under their insurance policy. This will increase the number of insurance policy holders and at the same time enhance the performance of insurance companies in Nigeria.

v. The insurance companies should try as much as possible to forecast their liquidity requirements and maintain emergency standby in order to meet their customers' needs and minimize the risk associated with their investments. This does not mean to leave excess funds idle or to invest in less profitable ventures. By doing this, their liquidity will be safe and the net assets value of the companies would be improved.

vi. National Insurance Commission should make sure that operators of insurance companies with solvency issues have take appropriate measures and meet the regulatory prescription.

vii. Insurance and reinsurance companies should obtain more favorable terms and conditions in their relationship with investors, creditors, insured's, reinsurers and other counter parties which should lead to a wider market for the industry. In collecting relative small premiums from many individuals, insurers would be able to pull together and have a large pool of funds that could be invested for long term periods so as to generate more premium income for the companies.

viii. Insurance companies in collaboration with the regulators in Nigeria should look in to economical, environmental and technological factors. By improving in recent technological shift (i.e. interacting with customers electronically) it will enhance the general performance of insurance companies in Nigeria.

5.5 Suggestions for further research

This study utilizes three dependent and 7 independent variables for testing the hypothesis one, two and three. Therefore, further research may incorporate more variables both micro-economic and macro-economic variables. Surrogate of performance such as sales and Tobin's Q can also be used. Determinants such as market stock return and volatility of earnings are among others that can be incorporated in the analysis using the same methodology. Furthermore, this study considered only staff of insurance companies in Nigeria using questionnaire administration. Future research may consider other consumers of insurance services and the public at large using appropriate sampling techniques that may provide large sample.

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APPENDIX (A)

Listed insurance companies in Nigeria as at 31st December, 2013

S/N	NAMES	DATE OF INCORPORATION	DATE OF LISTING
1	African Alliance Insurance Plc.	6th May, 1960	17th September, 2009
2	AIICO Insurance Plc	14th July, 1970	3rd December, 1990
3	Confidence Insurance Plc.	1982	6th August, 1999
4	Consolidated Hallmark Insurance Plc.	2nd August, 1991	22nd February, 2008
5	Continental Reinsurance Company plc.	24th July, 1985	12th June, 2007
6	Cornerstone Insurance Plc.	26th July, 1991	13th August, 1997
7	Custodian and Allied Insurance Plc.	22nd August, 1991	12th June, 2007
8	Equity Assuarance Plc.	10th November, 1983	18th July, 2007
9	Goldlink Insurance Plc.	8th September, 1993	12th February, 2008
10	Great Nigerian Insurance Plc.	28th February, 1960	11th October, 2005
11	Guaranty Trust Assurance Plc.	1989	19th November, 2009
12	Guinea Insurance Plc.	3rd December, 1958	1990
13	Intercontinental Wapic Insurance Plc.	1958	September, 1990
14	International Energy Insurance company plc.	26th march, 1969	13th July, 2007
15	Investment and allied assurance Plc.	1st January, 1991	9th May, 2008
16	Lasaco Assurance Plc	20th December, 1979	14th June, 1991
17	Law Union and Rock Insurance Plc.	17th June, 1969	9th July, 1990
18	Linkage assurance Plc.	26th March, 1991	18th November, 2003
19	Mutual Benefits assurance Plc.	18th April, 1995	3rd June, 2002
20	N. E. M. Insurance Plc.	2nd April, 1970	5th September, 1990
21	Niger Insurance Company Plc.	29th August, 1962	1st September, 1993
22	Oasis Insurance Plc.	9th November, 1992	24th July, 2007
23	Prestige assurance company Plc.	6th January, 1970	3rd December, 1990
24	Regency alliance Insurance Plc.	6th June, 1993	27th may, 2008
25	Sovereign Trust Insurance Plc.	2nd January, 1994	29th November, 2006
26	Staco Insurance Plc.	July, 1994	21st June, 2007
27	Standard Alliance Insurance Plc.	July, 1981	19th December, 2003
28	Unic Insurance Plc.	2nd April, 1965	27th February, 1990
29	Unitykapital Assurance Plc.	1973	17th December, 2009
30	Universal Insurance Plc.	1st March, 1961	11th February, 2008

Source. Nigerian Fact Book 2013

APPENDIX (B)

Analysis of Questionnaire Distribution

S/N0.	NAMES	BOD	Employees	TOTAL	%	PROPOTION
1	Africa Alliance	8	114	122	2	14
2	AIICO Insurance Plc	10	320	330	6	43
3	Confidence insurance	7	N/A	7	0	0
4	Consolidated Hallmark Plc.	10	143	153	3	22
5	Continental INSURACE plc.	12	51	63	1	7
6	Cornerstone Insurance Plc.	10	165	175	3	22
7	Custodian and Allied Insurance Plc.	8	95	103	2	14
8	Equity Assuarance Plc.	11	159	170	3	22
9	Goldlink Insurance Plc.	8	154	162	3	22
10	Great Nigerian Insurance Plc	8	117	125	2	14
11	Guaranty Trust Assuarance	11	165	176	3	22
12	Guinea Insurance Plc.	11	80	91	2	14
13	Intercontinental Wapic Insurance Plc.	14	130	144	3	22
14	International Energy insurance	11	505	516	9	65
15	investiment and Alliance	10	N/A	10	0	0
16	Lasaco Assurance Plc	8	183	191	4	29
17	Law Union and Rock Insurance Plc.	10	170	180	3	22
18	Linkage Assurance	12	182	194	4	29
19	Mutual Benefits assurance Plc.	12	298	310	6	43
20	N. E. M. Insurance Plc.	7	220	227	4	29
21	Niger Insurance Company Plc.	9	428	437	8	58
22	Oasis Insurance Plc.	12	59	71	1	7
23	Prestige Assurance Plc	14	85	99	2	14
24	Regency allience Insurance Plc.	9	117	126	2	14
25	Sovereign Trust Insurance Plc.	11	163	174	3	22
26	Staco Insurance Plc.	9	351	360	7	50
27	Standard Alliance	9	191	200	4	29
28	Unic insurance	10	227	237	4	29
29	Unity Kapital assurance	9	149	158	3	22
30	Universal Insurance Plc.	10	124	134	2	14
	TOTAL	**300**	**5145**	**5445**	**100**	720

Source. Nigerian Fact Book 2013

Note.
N/A = Not Available

BOD= Board of Directors

APPENDIX (C)
STATIONARITY TESTS

i) RETURN ON ASSETS (ROA)

Null Hypothesis: ROA has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.075914	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

ii) RETURN ON EQUITY (ROE)

Null Hypothesis: ROE has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.709427	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

iii) EARNINGS PER SHARE (EPS)

Null Hypothesis: EPS has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.944725	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

IV) COMPANIES AGE

Null Hypothesis: CAG has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.366446	0.0005
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

v) LEVERAGE (LEV)

Null Hypothesis: LEV has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.841538	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

vi) ASSETS TANGIBILITY (ATG)

Null Hypothesis: ATG has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.162456	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

vii) LIQUIDITY (LIQ)

Null Hypothesis: LIQ has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.704269	0.0000
Test critical values:	1% level	-3.471719	
	5% level	-2.879610	
	10% level	-2.576484	

*MacKinnon (1996) one-sided p-values.

viii) GROWTH WRITTEN PREMIUM (GWP)

Null Hypothesis: GWP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-11.45924	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

ix) SOLVENCY RATIO (SLV)

Null Hypothesis: SLV has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.182932	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

X) EQUITY (EQT)

Null Hypothesis: EQT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.295998	0.0000
Test critical values:	1% level	-3.471454	
	5% level	-2.879494	
	10% level	-2.576422	

*MacKinnon (1996) one-sided p-values.

APPENDIX (D)
HETEROSKEDASTICITY TEST: WHITE AND REGRESSIONS

i) Return on Assts

a) Heteroskedasticity Test: White

F-statistic	1.770404	Prob. F(7,153)	0.0970
Obs*R-squared	12.06367	Prob. Chi-Square(7)	0.0985
Scaled explained SS	13.27763	Prob. Chi-Square(7)	0.0656

b) Regression Equation Test:

Dependent Variable: RESID^2
Method: Least Squares
Date: 06/23/15 Time: 18:24
Sample: 1 161
Included observations: 161

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.363612	0.132213	2.758021	0.007241
CAG^2	0.000214	0.000612	0.797093	0.427312
LEV^2	-0.010651	0.005215	-2.179136	0.031045
ATG^2	-0.046216	0.039025	-1.203082	0.231145
LIQ^2	0.000651	0.001082	-0.220712	0.826056
GWP^2	0.020213	0.009321	2.283483	0.024034
SLV^2	-0.003431	0.002213	-1.252127	0.213126
EQT^2	-0.043217	0.019120	-2.256231	0.026075

R-squared	0.778840	Mean dependent var	0.001980
Adjusted R-squared	0.737560	S.D. dependent var	0.003101
S.E. of regression	4.564050	Akaike info criterion	-8.698939
Sum squared resid	0.001423	Schwarz criterion	-8.545826
Log likelihood	708.2646	Hannan-Quinn criter.	-8.636769
F-statistic	2.100404	Durbin-Watson stat	1.914247
Prob(F-statistic)	0.036031		

ii) Return on Equity

a) Heteroskedasticity Test: White

F-statistic	4.650333	Prob. F(7,153)	0.2316
Obs*R-squared	1.347733	Prob. Chi-Square(7)	0.2284
Scaled explained SS	31.95539	Prob. Chi-Square(7)	0.0000

b) Regression Equation Test:

Dependent Variable: RESID^2
Method: Least Squares
Date: 06/23/15 Time: 18:36
Sample: 1 161
Included observations: 161

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.594125	0.285126	-2.086120	0.039213
CAG^2	-0.001214	0.001215	-0.977213	0.330431
LEV^2	0.001205	0.010750	0.056765	0.955065
ATG^2	-0.133318	0.083089	-1.592512	0.114321
LIQ^2	0.002852	0.002150	0.978370	0.330674
GWP^2	0.042071	0.019784	2.208801	**0.029213**
SLV^2	-0.013702	0.005402	-2.600123	**0.010325**
EQT^2	0.103902	0.041012	2.475241	**0.014480**

R-squared	0.802850	Mean dependent var	0.009248
Adjusted R-squared	0.777895	S.D. dependent var	0.025521
S.E. of regression	0.025329	Akaike info criterion	-4.465284
Sum squared resid	0.098162	Schwarz criterion	-4.312171
Log likelihood	367.4553	Hannan-Quinn criter.	-4.403114
F-statistic	4.650333	Durbin-Watson stat	2.180937
Prob(F-statistic)	0.000040		

iii) Earnings per Share

a) Heteroskedasticity Test: White

F-statistic	1.050545	Prob. F(7,153)	0.3984
Obs*R-squared	7.383451	Prob. Chi-Square(7)	0.3901
Scaled explained SS	12.79867	Prob. Chi-Square(7)	0.0772

b) Regression Equation Test:

Dependent Variable: RESID^2
Method: Least Squares
Date: 06/23/15 Time: 18:39
Sample: 1 161
Included observations: 161

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-61.30721	31.24721	-1.960142	0.052098
CAG^2	0.018232	0.074231	0.241052	0.810865
LEV^2	0.055213	1.099126	0.050021	0.960218
ATG^2	-23.854215	9.158125	-2.605009	0.010102
LIQ^2	0.254012	0.182456	1.392122	0.166083
GWP^2	4.849643	2.076214	2.336021	0.021521
SLV^2	-0.869254	0.536243	-1.621201	0.107234
EQT^2	10.166125	4.550254	2.234220	0.027213

R-squared	0.701060	Mean dependent var	111.2919
Adjusted R-squared	0.654506	S.D. dependent var	218.7351
S.E. of regression	218.4937	Akaike info criterion	13.65980
Sum squared resid	73041420	Schwarz criterion	13.81292
Log likelihood	-1091.614	Hannan-Quinn criter.	13.72197
F-statistic	4.720545	Durbin-Watson stat	1.994251
Prob(F-statistic)	0.000100		

APPENDIX (E)
FACTOR ANALYSIS

```
FACTOR
  /VARIABLES ENV4 ENV5 ECO1 ECO3 ECO4 ECO5 TEC2 TEC3
  /MISSING PAIRWISE
  /ANALYSIS ENV4 ENV5 ECO1 ECO3 ECO4 ECO5 TEC2 TEC3
  /PRINT INITIAL CORRELATION KMO AIC EXTRACTION ROTATION
  /FORMAT SORT BLANK(.3)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /METHOD=CORRELATION.
```

Factor Analysis

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Correlation Matrix									
		ENV4	ENV5	ECO1	ECO3	ECO4	ECO5	TEC2	TEC3
Correlation	ENV4	1.000	.355	.428	.053	.149	.133	.140	.223
	ENV5	.355	1.000	.306	.169	.119	.143	.128	.125
	ECO1	.428	.306	1.000	.142	.059	.105	.172	.141
	ECO3	.053	.169	.142	1.000	.464	.505	.311	.207
	ECO4	.149	.119	.059	.464	1.000	.518	.230	.166
	ECO5	.133	.143	.105	.505	.518	1.000	.257	.246
	TEC2	.140	.128	.172	.311	.230	.257	1.000	.532
	TEC3	.223	.125	.141	.207	.166	.246	.532	1.000

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.700
Bartlett's Test of Sphericity	Approx. Chi-Square	853.288
	Df	28
	Sig.	.000
a. Measures of Sampling Adequacy(MSA)		

Communalities		
	Initial	Extraction
ENV4	1.000	.639
ENV5	1.000	.524
ECO1	1.000	.588
ECO3	1.000	.643
ECO4	1.000	.669
ECO5	1.000	.681
TEC2	1.000	.753
TEC3	1.000	.777

Extraction Method: Principal Component Analysis.

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.665	33.312	33.312	2.665	33.312	33.312
2	1.488	18.595	51.907	1.488	18.595	51.907
3	1.120	14.002	65.909	1.120	14.002	65.909
4	.701	8.762	74.672			
5	.666	8.322	82.994			
6	.498	6.220	89.214			
7	.449	5.611	94.826			
8	.414	5.174	100.000			

Rotated Component Matrix[a]			
	Component		
	1	2	3
ECO4	.813		
ECO5	.807		
ECO3	.780		
ENV4		.787	
ECO1		.759	
ENV5		.707	
TEC3			.867
TEC2			.837

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 4 iterations.

Component Transformation Matrix			
Component	1	2	3
1	.705	.483	.519
2	-.559	.829	-.012
3	.436	.282	-.855

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

```
FACTOR
  /VARIABLES PER1 PER2 PER3 PER4 PER5
  /MISSING PAIRWISE
  /ANALYSIS PER1 PER2 PER3 PER4 PER5
  /PRINT INITIAL CORRELATION KMO AIC EXTRACTION ROTATION
  /FORMAT SORT BLANK(.3)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /METHOD=CORRELATION.
```

Factor Analysis

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Correlation Matrix						
		PER1	PER2	PER3	PER4	PER5
Correlation	PER1	1.000	.543	.615	.521	.496
	PER2	.543	1.000	.483	.623	.504
	PER3	.615	.483	1.000	.465	.440
	PER4	.521	.623	.465	1.000	.483
	PER5	.496	.504	.440	.483	1.000

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.838
Bartlett's Test of Sphericity	Approx. Chi-Square	984.573
	Df	10
	Sig.	.000
a. Measures of Sampling Adequacy(MSA)		

Communalities		
	Initial	Extraction
PER1	1.000	.663
PER2	1.000	.654
PER3	1.000	.584
PER4	1.000	.626
PER5	1.000	.545

Extraction Method: Principal Component Analysis.

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.073	61.452	61.452	3.073	61.452	61.452
2	.628	12.565	74.017			
3	.548	10.962	84.980			
4	.379	7.578	92.558			
5	.372	7.442	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]	
	Component 1
PER1	.814
PER2	.809
PER4	.791
PER3	.764
PER5	.738

Extraction Method: Principal Component Analysis.[a]

a. 1 components extracted.

```
RELIABILITY
  /VARIABLES=PER1 PER2 PER3 PER4 PER5
  /SCALE('Performance') ALL
  /MODEL=ALPHA.
```

Reliability

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Scale: Performance

Case Processing Summary			
		N	%
Cases	Valid	521	100.0
	Excluded[a]	0	.0
	Total	521	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.839	5

```
RELIABILITY
  /VARIABLES=PER1 PER2 PER3 PER4
  /SCALE('Economical') ALL
  /MODEL=ALPHA.
```

Reliability

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Scale: Economical

Case Processing Summary			
		N	%
Cases	Valid	521	100.0
	Excluded[a]	0	.0
	Total	521	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.823	4

```
RELIABILITY
  /VARIABLES=PER1 PER2
  /SCALE('Environmental') ALL
  /MODEL=ALPHA.
```

Reliability

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Scale: Environmental

Case Processing Summary			
		N	%
Cases	Valid	521	100.0
	Excluded[a]	0	.0
	Total	521	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.701	2

```
RELIABILITY
  /VARIABLES=PER2 PER4
  /SCALE('Technological') ALL
  /MODEL=ALPHA.
```

Reliability

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Scale: Technological

Case Processing Summary			
		N	%
Cases	Valid	521	100.0
	Excluded[a]	0	.0
	Total	521	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.767	2

```
CORRELATIONS
  /VARIABLES=Performance Economical Environmental Technological
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Correlations

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Correlations					
		Performance	Economical	Environmental	Technological
Performance	Pearson Correlation	1	.597**	.332**	.513**
	Sig. (2-tailed)		.000	.000	.000
	N	521	521	521	521
Economical	Pearson Correlation	.597**	1	.335**	.360**
	Sig. (2-tailed)	.000		.000	.000
	N	521	521	521	521
Environmental	Pearson Correlation	.332**	.335**	1	.215**
	Sig. (2-tailed)	.000	.000		.000
	N	521	521	521	521
Technological	Pearson Correlation	.513**	.360**	.215**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	521	521	521	521

**. Correlation is significant at the 0.01 level (2-tailed).

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING PAIRWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT Performance
  /METHOD=ENTER Economical Environmental Technological
  /PARTIALPLOT ALL
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID)
  /CASEWISE PLOT(ZRESID) OUTLIERS(3).
```

Regression

[DataSet1] C:\Users\ACER USER\Dropbox\Data Analysis\Factor Analysis 2.sav

Descriptive Statistics

	Mean	Std. Deviation	N
Performance	5.0361	.74612	521
Economical	5.0082	.61613	521
Environmental	5.0940	.78126	521
Technological	4.8666	.86545	521

Correlations

		Performance	Economical	Environmental	Technological
Pearson Correlation	Performance	1.000	.597	.332	.513
	Economical	.597	1.000	.335	.360
	Environmental	.332	.335	1.000	.215
	Technological	.513	.360	.215	1.000
Sig. (1-tailed)	Performance	.	.000	.000	.000
	Economical	.000	.	.000	.000
	Environmental	.000	.000	.	.000
	Technological	.000	.000	.000	.
N	Performance	521	521	521	521
	Economical	521	521	521	521
	Environmental	521	521	521	521
	Technological	521	521	521	521

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Technological, Environmental, Economical[b]	.	Enter

a. Dependent Variable: Performance
b. All requested variables entered.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.686[a]	.470	.467	.54468	2.067

a. Predictors: (Constant), Technological, Environmental, Economical
b. Dependent Variable: Performance

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	136.099	3	45.366	152.914	.000[b]
	Residual	153.383	517	.297		
	Total	289.482	520			

a. Dependent Variable: Performance
b. Predictors: (Constant), Technological, Environmental, Economical

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.427	.226		1.892	.059
	Economical	.532	.043	.440	12.291	.000
	Environmental	.109	.033	.114	3.335	.001
	Technological	.285	.030	.331	9.581	.000

Coefficients[a]						
Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	Economical	.597	.476	.393	.801	1.249
	Environmental	.332	.145	.107	.878	1.140
	Technological	.513	.388	.307	.860	1.162

a. Dependent Variable: Performance

Collinearity Diagnostics[a]						
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Economical	Environmental
1	1	3.958	1.000	.00	.00	.00
	2	.022	13.512	.01	.00	.29
	3	.013	17.741	.15	.29	.69
	4	.007	23.141	.83	.71	.02

APPENDIX (F)

SAMPLE COPY OF QUESTIONNAIRE DISTRIBUTED

Department of Business Administration,
Faculty of Administration,
Ahmadu Bello University, Zaria

Dear Sir / Madam,

ACADEMIC RESEARCH QUESTIONNAIRE

Thank you in advance for taking your valuable time to participate in this survey, which focuses on your experiences and opinions concerning the insurance business in Nigeria. Specifically, the primary goal of the current study is to better understand the external determinants of insurance companies' performance in Nigerian, to fulfil the requirements for the award of Doctor of Philosophy (PhD) by Ahmadu Bello University.

Please complete the survey within the next two week. Upon completion of the survey, please return it to your department's representatives. Please be assured that your responses will only be used for academic purpose. Hence, your identity will never be known throughout any part of the research process. If you are interested in the survey I am conducting or have any questions about it, please do not hesitate to contact me at the number and email address below.

Thank you very much in anticipation of your responses.

Yours faithfully,

Hamisu Ibrahim
PhD Candidate
Tel: 08033796383
email: hamisku@gmail.com

SECTION (I)

Instruction: The following questions ask you about the external environment factors that affect insurance companies' performance in Nigeria. Please indicate as honestly and as objectively as you can whether you are conversant to statements raised below. Use the scales provided below to indicate your level of agreement or disagreement with each statement. The scales are SD, D, SD, SA, A, and SA strongly disagree, disagree, slightly disagree, slightly agree, agreed and strongly agreed respectively.

Questionnaire on performance (Part A)

SD	**D**	**SD**	**SA**	**A**					**SA**
1	2	3	4	5					6
				Scale					
Code	**Statements**			**1**	**2**	**3**	**4**	**5**	**6**
PER 1	The performance of insurance Companies in Nigeria can be tied to Capital Adequacy.								
PER 2	Innovation enhances the performance of insurance companies in Nigeria								
PER 3	Developing retail insurance, micro insurance and ethical insurance will improve the performance of insurance companies in Nigeria.								
PER 4	Performance of insurance Companies in Nigeria can be tied to patronage on risk exposure.								
PER 5	Prudency in the management of Insurance Companies resources will improve their profitability and performance.								

Questionnaire Political Factors (Part B)

SD	**D**	**SD**	**SA**	**A**					**SA**
1	2	3	4	5					6
				Scale					
Code	**Statements**			**1**	**2**	**3**	**4**	**5**	**6**
POL 1	Regulations could lead to greater standardization of insurance products and policies in Nigeria.								
POL 2	Resource scarcity around the world is magnifying the risks of geopolitical instability which affect the performance of insurance business								
POL 3	Terrorist attacks often impact multiple product lines of insurance (e.g. commercial property, business interruption, workers compensation, life and benefits)								
POL 4	The preferential tax treatment of life, annuity and retirement policies is among the factors responsible for insurance companies performance								
POL 5	Religion and cultural factors might as well prompt Nigerians into exhibiting different behavioural reactions to insurance services								

Questionnaire on Economic Factors (Part C)

SD	**D**	**SD**	**SA**	**A**				**SA**	
1	2	3	4	5				6	
				Scale					
Code	**Statements**			**1**	**2**	**3**	**4**	**5**	**6**
ECO 1	Inflation affect insurance market decision and insurance policies significantly								
ECO 2	Deflation affect insurance market decision and insurance policies significantly								
ECO 3	Exchange rates affect the costs of exporting goods and services of insurance polices								
ECO 4	interest rates affect a firm's cost of capital and therefore to what extent a business grows and expands								
ECO 5	Consumers' income significantly affect insurance consumption in Nigeria								

Questionnaire on Social Factors (Part D)

SD	**D**	**SD**	**SA**	**A**				**SA**	
1	2	3	4	5				6	
				Scale					
Code	**Statements**			**1**	**2**	**3**	**4**	**5**	**6**
SOC 1	New social trends will shake up traditional business patterns in the insurance industry in Nigeria.								
SOC 2	Customer expectations of simplicity and transparency will foster innovations in product/service design and delivery								
SOC 3	Ethical issues affect the performance of insurance companies in Nigeria								
SOC 4	lack of copyright protection for life products, regulatory opposition, consumer and salesmen's attitudes affects insurance companies performance in Nigeria								
SOC 5	The emergence of universal banking in Nigeria which has expanded its scope of activities to include a good measure of insurance services has been a major threat to the insurance companies in Nigeria								

Questionnaire Technological Factors (Part E)

SD	**D**	**SD**	**SA**	**A**				**SA**	
1	2	3	4	5				6	
				Scale					
Code	**Statements**			**1**	**2**	**3**	**4**	**5**	**6**
TEC 1	The growth of internet connected devices and sensors will have a significant impact on the availability of real-time information								
TEC 2	Technological advances will impact on insurance services in Nigeria								
TEC 3	New technologies are significantly enhancing operational efficiencies, increasing revenue opportunities and improving the customer experience.								
TEC 4	Advances in Artificial Intelligence techniques, such as machine learning, natural language understanding and intelligent decision-making will allow insurers to advance								
TEC 5	Medical advances will impact on health insurance services in Nigeria								

Questionnaire Environmental Factors(Part F)

SD	**D**	**SD**	**SA**	**A**				**SA**	
1	2	3	4	5				6	
				Scale					
Code	**Statements**			**1**	**2**	**3**	**4**	**5**	**6**
ENV 1	Increasing energy consumption will directly impact carriers' risk exposure and subsequently increase insurance demand								
ENV 2	Climate change sustainability affect insurance services in Nigeria								
ENV 3	Atmospheric Pollution will directly impact carriers' risk exposure								
ENV 4	Catastrophes sustainability affect insurance services in Nigeria								

SECTION (II)

Instruction: Please read and tick as appropriate in the provided boxes your exact assessment of the following demographic information:

1. What is your Department?

Administration	1
Finance	2
Marketing	3
Research and Development	4

3. What is your present rank?

Board Member	1
Managing Director	2
Director	3
Deputy Director	4
Others	5

4. How long have you been in the present job?

Less than 1 year	1
1-5 years	2
6 -10 years	3
11 years and above	4

5. Highest Educational Qualification

Doctorate Degree	1
Master's Degree	2
First Degree	3
Others	4

Thank you once again.