DETERMINANTS OF PROFITABILITY OF LISTED PHARMACEUTICAL FIRMS IN NIGERIA

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A DISSERTATION SUBMITTED TO SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE (M.Sc.) DEGREE IN BUSINESS ADMINISTRATION

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DECLARATION

I declare that the work in this dissertation entitled 'Determinants of Profitability of Listed Pharmaceutical Firms in Nigeria' has been carried out by me under the supervision of Prof. Bello Sabo and Dr. M. I. Aminu in the Department of Business Administration. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No section of this dissertation was previously presented for another degree or diploma at this or other institution. I take the sole responsibility of all errors therein.

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Name of Student	Signature	Date

CERTIFICATION

This dissertation entitled “Determinants of Profitability of Listed Pharmaceutical Firms in Nigeria” by Kabir Adedeji IBRAHIM meets the regulation governing the award of the degree of Master of Science (M.Sc.) in Business Administration of the Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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In the name of Allah (SWT), the All-Compassionate and All-Merciful, may His peace and blessing be upon His noble messenger Muhammed (SAW). I give all glory and adoration to Allah (SWT) the Sustainer of my life and the Pillar of my success.

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DEDICATION

This dissertation is dedicated to Almighty Allah (SWT), the source and pillar of my success.

ABSTRACT

The rate of return earned by a Pharmaceutical firm is affected by numerous factors. Thesefactors include elements internal to each Pharmaceutical firm and several importantexternal forces shaping profitability. While the internal forces can be easily manipulated and controlled by firm's management. It was on this note that this study examined the determinants of profitability of listed pharmaceutical firms in Nigeria. To achieve the stated objectives, secondary data was collected over a period of 7 years (2011-2016) from the annual reports and accounts of 7listed Pharmaceutical firms using censor sampling technique. The data gathered went through various robustness tests using STATA 10 where panel regression was adopted as a tool of data analysis. The result revealed that internal factors of liquidity, leverage and tangibility have significant effects on profitability,while firm size and age have no significant effect on the profitability of Pharmaceutical firms for the period under study. The study concluded that the major internal determinants of profitability of listed pharmaceutical firms are: liquidity, leverage and asset tangibility. Based on these findings, the study recommends that board of directors should maintain the level of those internal factors that are significant in order to reduce information asymmetry and subsequently add value to the firms.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Every business organization is primarily focused on extracting the highest amount of profit from their business activities. When investments are made in a business venture, whether by owners or shareholders, it is because they expect profit out of their investments. The measure of a successful enterprise is frequently based on how much and how consistently it can turn a profit. However, profit and profitability are two different concepts, albeit related. Raval (2006) reduced profitability to its simplest terms by defining it as the ability of a given instrument to earn a profit. Whether the firm is generating enough profit from its resources, whether it is utilizing resources properly, whether it is performing better or worse than its competitors in terms of making profit etc. cannot be adequately judged simply by looking at the firm's net profit. Instead, profitability has to be taken into account considering both the internal and external factors that can affect it either positively or negatively. In technical terms, profitability is the ratio of profit to revenue, which gives a clearer picture of the performance of a company rather than just the profit.

In the same vein, profit is the main motive of every business organization which pharmaceutical companies are not exempted. Shareholder desire for wealth maximization cannot be achieved without profit. Profit ensures that the business continues as a going concern. The existence and survival of any business is dependent on the level of profit.Thus, it is the driving force for the business enterprises. The perpetual existence of the firms depends on the profit earning capacity of the firm, which is considered to be the foremost factor in influencing the reputation of the firm. Profit is an absolute term, whereas, the profitability is a relative concept. Profit refers to the total

income earned by the enterprise during the specified period of time, while profitability refers to the operating efficiency of the enterprise and delivers the evidence about the company's ability to spawn earnings. An enhancement in profitability sparks to an increase in stock price, thereby registering capital gains.

Profitability of firms is of vital importance to investors, stakeholders and economy at large. For investors, the return on their investments is highly valuable, and a well performing business can bring high and long-term returns for their investors. Furthermore, profitability of firm will boost the income of an organization, bring better quality products for its customers, and have better environment friendly production units. Also, more profits will mean more future investments, which will generate employment opportunities and enhance the income of people. Many studies have been conducted to determine various financial and non-financial factors that can boost or have an adverse effect on the performance of firm.

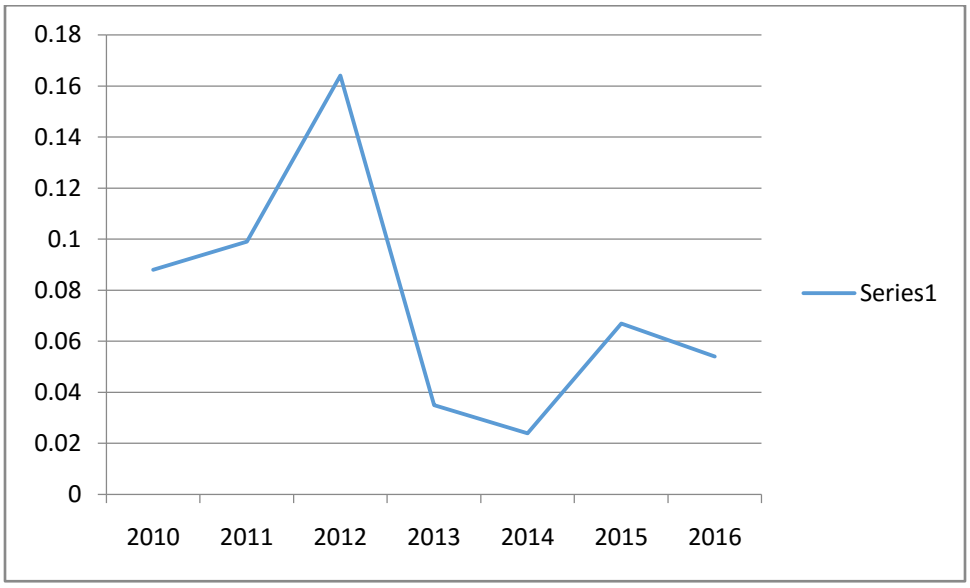
The performance of any enterprise is influenced by the environment in which it is located. The last two decades has witnessed the pre and post democratic governance in Nigeria as well as a number of government initiatives aimed at addressing some challenges facing the health delivery system of the country. The pharmaceutical sector is a complex one, involving many different stakeholders such as the manufacturers themselves, national regulators, government ministries, wholesalers and others. Developing the industry requires concerted action across these stakeholders to create the environment in which that industry can flourish and realize its full potential as an asset to economic and social development. Since 2006, United Nation Development Organisation(UNIDO), with funding from the Government of Germany, has been conducting a project on strengthening the local production of essential generic drugs in developing and Least Developed Countries. The objective is to help the pharmaceutical sectors

in developing countries such as Nigeria realize their potential role of acting as a pillar of public health and contributing to economic and social development. The key challenges confronting Nigeria's pharmaceutical market include counterfeit medicines, poor healthcare infrastructure and the limited spending power of citizens. These challenges is as a result of high cost of production by pharmaceutical companies.According to the survey conducted by UNIDO in 2011, there are about 120 local drug manufacturers in Nigeria. Capacity utilization within the sector is about 40 per cent, meaning that there is a large volume of under-utilized manufacturing capacity which could be applied to produce new products upon demand. According to the Pharmaceutical Manufacturers Group of the Manufacturers Association of Nigeria (PMG-MAN), about 60 per cent of pharmaceutical production in ECOWAS countries is located in Nigeria.

The survey further indicated that poor infrastructure (power, water, and transportation) increases the cost of medicine manufacture and distribution whilst also hampering growth. Currently, no Nigerian pharmaceutical manufacturer has attained WHO cGMP (current Good Manufacturing Practice) requirements and WHO pre-qualification although some companies are inter alia upgrading their facilities and hope to attain this status in the near future. However, for the time being, they cannot participate in international tenders for pharmaceutical supplies and their scope for exporting is also limited. Attainment of WHO GMP and prequalification status will enable local pharmaceutical producers to participate in international tenders for supplies of anti-retrovirals, anti-malarials and anti-TB medicines. A further obstacle faced by local manufacturers is access to finance for working capital and upgrading facilities, which is constrained by high bank interest rates.

However, the profitability of Nigeria pharmaceutical was never above 20% for the past 7 years using their Return on Asset as a proxy for profitability. The graph below shows the trend of profitability between 2010 to 2016.

Fig. 1.0. **Profitability Trend**



Source: Researcher's compilation

The above graph showing the industry profitability proxied by average Return on Asset (ROA) of the quoted pharmaceutical firms in Nigeria shows a fluctuating pattern for a period of 7 years (2010-2016). The graph shows a rise in the profitability of the firms between 2010, 2011 and 2012 which is 8.8%, 9.9% and 16.5% respectively. However, between 2013, 2014 and 2015 the profitability level fell drastically to 3.5%, 6.4% and 5.4 respectively indicating a problem which can either be internal or external to the firm.

Hence, the need to study how they perform becomes inevitable because their contributions are very vital to the welfare of the citizens and the economy at large. This can be achieved if the firms are having a great profit margin.Due to the fact that firm'sprofitability straightforwardly influence the stability of the countries' economic systems in today's capitalist world economy, the factors

affecting firm profitability justify special attention (Akbas&Karaduman, 2012). Profitability is the most important objective of the majority business entities; hence it's comparative significance in the investigation of business enlargement and endurance. There are lots of factors that can have impact on the profitability of firms. Among these factors are; leverage, liquidity, firm size and firm age (Akbas&Karaduman). These determinants with the inclusion of asset tangibility have been measured in this study as determinants of corporate profitability. In line with the above the study examines the effect of these determinants on the profitability of Pharmaceutical firms in Nigeria.

1.2 Statement of the Problem

Nigeria is a relatively large country with an estimated population of 169 million and it is endowed with natural resources, high levels of human and social capital **(**Ogaji et al, 2014). However, it is plagued with a very high incidence of disease, poverty and malnutrition and has lower life expectancy than some other African countries of comparable economy (WHO, 2013). In the last five decades, the Nigerian health sector has remained grossly underdeveloped, despite seeming better off than other African peers(AFRINVEST, 2014). Healthcare delivery in Nigeria is characterized by inefficient budget execution, inadequate funding, poor service quality and a shortage of qualified personnel essential to the delivery of public health services. Despite modest increases in healthcare budgetary allocation, improvements to key health indicators have been rather limited (AFRINVEST, 2014).

The pharmaceutical industry in Nigeria has a solid history which can be traced to the colonial period where pharmaceutical business primarily involved the distribution of drugs by representatives of different multinational drug manufacturing companies present in Nigeria such as Beecham, May & Baker, Pfizer, Glaxo, among others. In general, the activities of this

pharmaceutical sector isimpacting on economic growth positively and presenting many individuals with investment opportunities.

The role of the pharmaceutical industry in a country such as Nigeria in the provision of safe, pure, quality and efficacious products to meet the healthcare need of the populace cannot be over-emphasized. Provision of essential medicines by this sector will curb infiltration of the market with spurious and sub-standard products and will also enhance the economy,**(**Ogaji, Alawode, and Iranloye, 2014). In realization of key role of the availability of essential drug by Pharmaceuticals firms and their significant impact on health system, the government of Nigeria has made more efforts in empowering the pharmaceutical industry in the last two decades than before **(**Ogaji et al, 2014). The authors went further to explained that revised National Drug Policy (NDP, 2005), anticipated that by 2008, the local pharmaceutical industry will have realized a production capacity of 70% to satisfy at least 60% of national drug requirements of essential drugs while the balance was to be exported (NDP,2005). Consequently, a number of essential drugs that the local manufacturing industry has the capacity to produce have been put on import prohibition list to encourage the local manufacture and improve on the capacity utilization of sector (NCS, 2014).

Kaplan and Liang (2005) opined that pharmaceutical sector ensures that there is no great disparity between the demand for medicines to treat endemic diseases and the lack of purchasing power. The authors proceeded that investments in local medicine production will be efficient when the pharmaceuticals can be produced more cheaply locally and optimizing profits and growth. Though the Federal government has made various policy to make sure that this sector performed to expectation through the banning of certain drugs into the country.

The pharmaceutical market was estimated to be worth US$ 600 million in 2009 and should grow substantially at around 12 per cent year-on-year. Despite government efforts to promote

domestic manufacturing of essential drugs, Nigeria remains heavily reliant on imported pharmaceuticals. The revised National Drug Policy (NDP) (2004) set a target for 70 per cent (in volume) of the country's demand for medicines to be met by local drug manufacturers by 2008. Consequently, Government policies support local production of essential medicines in accordance with the NDP.

However, these policies of government can not only improve their performance in the society but the internal and other external specific factors of the companies should also be given a serious consideration. In achieving this, these internal and external specific factors that can affect the sustainability and existence (profitability and growth) of these pharmaceutical companies in both local and international market should be recon with in order to ensure that the sector perform their roles in the society. Firm specific characteristics are factors that are mostly under the direct control of management. The firm specific indicators include firm size, liquidity, asset tangibility, leverage, size and age of the firm. On the other hand, the macroeconomic indicators are those factors that are beyond the control of management. This includes interest rate, GDP, and industry size (Sumaira&Amjad, 2013). This means that the profitability of pharmaceutical firms could be ascertained using firm specific attributes (internal attributes) and macroeconomics variables (external attributes) as major determinants of profitability of the companies.

Malik (2011) clearly classified the internal attributes into two major sub-categories, namely, the financial variables and non-financial variables. From his explanation, he regarded financial variables as determining factors which are directly driven from items in a balance sheet and profit and loss accounts. This includes size, leverage, liquidity, and tangibility of asset. On the other hand, the non-financial variables are those factors which cannot be driven from the items in the balance sheet and profit and loss accounts. The non-financial variables are classified as

management quality or competency, efficiency and productivity, age, and scope of operation (Yuqili, 2007).

There are different forms of company characteristics depending on the nature of the research to be conducted. For the purpose of this study, five firm specific attributes which include; liquidity, leverage, asset tangibility, age and size of the firm were considered and discussed. Liquidity measures the ability of managers in insurance and reinsurance companies to fulfill their immediate commitments to policy holders and other creditors without having to increase profits on underwriting and investment activities and/or liquidate financial assets (Adam & Buckle 2000). Liquidity refers to the degree to which debt obligations coming due in the next 12 months can be paid from cash or assets that will be turned into cash. It is usually measured by the current assets to current liabilities (current ratio). It shows the ability to convert an asset to cash quickly and reflects the ability of the firm to manage working capital when kept at normal levels. A firm can use liquid assets to finance its activities and investments when external finance is not available or it is too costly. Higher liquidity will allow a firm to deal with unexpected contingencies and to cope with its obligations during periods of low earnings (Liargovas& Skandalis, 2008). It should also be noted that too much focus on liquidity will be at the expense of profitability (Gitman, 2007).

Leverage is measured by the ratio of total liabilities to total assets. It shows the degree to which a business is utilizing borrowed money. Companies that are highly leveraged may be at risk of bankruptcy if they are unable to make payments on their debt; they may also be unable to find new lenders in the future. Leverage is not always bad because it can increase the shareholders' return on their investment and make good use of the tax advantages associated with borrowing.

The degree of financial leverage reflects a company's ability to manage their economic exposure to unexpected losses.

The firm age is associated with ample of experience, expertise and reduction in perceived risks, (Mahajan & Singh, 2013) since old firms are expected to have large market shares, high clientele,patronage, customer loyalty, well established logistic channels, and business associates with various factors of production. Thus, older firms tend to be more profitable due to their well-established operational strategies in producing various goods/services to meet various customers' demands. However, Graham et al, (2011) posit that young firms tend to be prone to distress during a negative stock business period. Similarly, Carroll (2003) observesthat young firm isprone to failure because of diversion of their resources to establish internal routines, developing credible exchange relationship, and training of the employees.

Companies that have been in the market for a long period of time have acquired reputation, since they have proven their ability to fulfill long-term contract obligations and their financial stability. The company age can be calculated straightforwardly for all companies. The age factor is scaled by considering the natural logarithm of company age. Newly established firms are not particularly profitable in their first years of operation, as they place greater emphasis on increasing their market share, rather than on improving profitability Athanasoglou*et al* (2005) as cited in the work of Abate (2012). Similarly, Yuqi li (2007) indicate that older firms are expected to be more profitable due to their longer tradition and they have built their reputation over the years. In line with the above, Almajali and Yahya (2012) argued that an older well established company is likely to be more proficient in gathering, processing and releasing information when needed because of learning experience. In a similar vein, Liargovas and Skandal (2008) opined that older firms are prone to inertia and the bureaucratic ossification that goes along with age;

they might have developed routines which are out of touch with market conditions. In this case, an inverse relationship between firm's age and profitability could be observed.

The size of a firm plays an important role in determining the kind of relationship the firm enjoys within and outside its operating environment. The larger a firm is, the greater the influence it has on its stakeholders. Again, the growing influences of conglomerates and multinational corporations in today's global economy are indicative of what role size plays within the corporate environment (Ghafoorifard, Sheykh, Shakibaee and Joshaghan, 2014).The evidence from previous studies indicate that firm size either measured by total sales or total assets is probably the most important determinant of foreign direct investment decisions whereas other attributes could be subordinated by firm size.(Horst, 1972; Lall, 1986; Grubaugh, 1987; Chen, 1992) Firm size is considered to represent some firm specific advantages because of the following reasons. First, foreign investments incur sunk costs at the initial stage and large firms are considered to have better access to credit than small firms (Horst,1972). Second, larger scale production implies that the firm is likely to produce goods more efficiently through learning-by doing. Third, the market for such in tangible assets (e.g.; brand name, patent) is often imperfect and this produces an incentive to keep the use of the technology within the firm.

The type of assets owned by a firm may motivate the financing behavior of firms. The tangible assets of a firm can be considered as the representatives of the real guarantees to its creditors. Padron *et al*. (2005) underscore the significance of tangible assets in influencing a firm's level of debt. Similarly, Gaud *et al*. (2005) affirm that tangible assets are probable to have an effect on the borrowing decisions of a firm since they are less subject to informational asymmetries and they have a greater value than intangible assets in case of insolvency. Moreover, the firm's use of tangible assets as security reduces the risk of the moral because this is a positive indicator to the

creditors who can request the liquidation of these assets in the case of credit default. Consistent with this line of argument, Rajan and Zingales (1995) posit that the greater the proportion of tangible assets on the balance sheet, the more willing lenders should be to advance loans, which in turn affect the profitability of a firm.

Over the years, the determination of profitability in pharmaceutical industries has been a problem faced by scholars (Okwo, Mary, Enekwe, &Okelue 2012). Hence the need to study how they perform becomes inevitable.It is therefore important to assess the determinants of 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 major internal factors in explaining performance of listed pharmaceutical firms in Nigeria because of the managerial influence on the internal factors which are meant to make the sector a competitive one in Nigeria.

Although, there have been studies such as Samhan and Al-Khatib (2015), Mwangi and Murigu (2015) among others on profitability of financial sectors (Banking and insurance) and other sectors in Nigeria and other countries but researches are few in manufacturing sector most especially in Nigeria while study on the pharmaceutical sector is scanty which has experienced underutilization of capacity over the years which in turn affect it profitability. Thus, this study attempt to assess the determinants of profitability of listed pharmaceutical firms in Nigeria in order to provide evidence on what effect the firm-specific factors have on the profitability of manufacturing sector which have being neglected by most researchers in Nigeria.

1.3 Research Questions

The research questions to be answered by the study are:

i. To what extent does asset tangibility affect the profitability of listed pharmaceutical firms in Nigeria?

ii. To what extent does leverage affect the profitability of listed pharmaceutical firms in Nigeria?

iii. To what extent does liquidity affect the profitability of listed pharmaceutical firms in Nigeria?

iv. To what extent does firm's size affect the profitability of listed pharmaceutical firms in Nigeria?

v. To what extent does firm's age affect the profitability of listed pharmaceutical firms in Nigeria?

1.4 Objectives of the Study

The main objective of the study is to investigate the determinants of profitability of listed pharmaceutical firms in Nigeria while the specific objectives include:

i. To examine the effect of tangibility on the profitability of listed pharmaceutical firms in Nigeria.

ii. To examine the effect of leverage on the profitability of listed pharmaceutical firms in Nigeria.

iii. To determine the effect of liquidity on the profitability of listed pharmaceutical firms in Nigeria.

iv. To evaluate the effect of firm's size on the profitability of listed pharmaceutical firms in Nigeria.

v. To evaluate the effect of firm's age on the profitability of listed pharmaceutical firms in Nigeria.

1.5 Statements of Hypotheses

In line with the objectives of the study, five hypotheses wereformulated as follow:

H_{o1}: Asset tangibility has no significant effect on the profitability of pharmaceutical firms in Nigeria.

H_{o2}: Leverage has no significant effect on the profitability of pharmaceutical firms in Nigeria.

H_{o3}: Liquidity has no significant effect on the profitability of pharmaceutical firms in Nigeria.

H_{o4}: Size has no significant effect on the profitability of pharmaceutical firms in Nigeria.

H_{o5}: Age has no significant effect on their profitability of pharmaceutical firm in Nigeria.

1.6 Significance of the Study

Analyzing and understanding the effect of different factors on the profitability of listed Pharmaceutical companies in Nigeria is a major stepping stone to enlightening what should be done if profitability is to be achieved by these companies.

The findings of the study will also be of benefits to shareholders, prospective investors, general public, managers, government and customers interested in knowing the determinants of profitability. This in turn helps them in knowing factors affecting profitability and thereby takes appropriate actions to increase profitability and the study will also initiate other sectors to give due attention on the management of identified variables.

Therefore, the findings of this study is expected to have positive implications on future policies and regulations by health sector regulatory authorities which will be formulated and implemented

purposely to improve the profitability and stability of pharmaceutical companies. In the same vein, the finding of this study will give more understanding on the major determinants of performance which are meant to guide the investors in making investment decisions at point in time.

It is hoped that the outcome of this study will also provide an insight to other researchers that intend to engage in further study on the same field.

1.7Scope of the Study

The study examined the determinants of profitability where only firm size, asset tangibility, firm age and liquidity will be considered among the internal determinants or factors of profitability of listed pharmaceutical companies which are under the Health Sector in the Nigeria Stock Exchange (NSE) for the period of 7 years (2010 to 2016). The study used income statements and statements of financial position of listed pharmaceutical firms in Nigeria which are extracted from the annual reports of the relevant financial years. The annual reports for this study were downloaded directly from the respective firm's websites in the form of soft copies.

1.8 Limitations of the study

The following are the limitations of this study:

This study focused on only firm specific/internal attributes that influence the profitability of listed Pharmaceutical firms in Nigeria. However, there are still other external/macro-economic determinants which the study did not cover. In the area of proxy for profitability, the study used only return on assets as tool for measuring profitability while other measurement such as: return on equity, net profit margin and Tobin's Q are neglected which further study may use as a gap for their study.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This section places the study in the context of past researches. It critically reviewed and conceptualized the research undertaken on firm specific attribute that affect the profitability of listed pharmaceutical firms in Nigeria. A survey of literatures was done extensively, theoretically and empirically concerning firm's specific attribute and profitability of listed pharmaceutical firms. Emphasis is placed on asset tangibility, leverage, liquidity, firm size and age as they relate to profitability of quoted pharmaceutical firms in Nigeria.

2.2 Concept of profitability

Profitability is a situation where the generated income for a particular period exceeds the expenses incurred over the same length of time, majorly for the purpose of generating income (Ayanda, Christopher and Mudashiru 2013). Profit is the financial return or reward that entrepreneurs aim to achieve to reflect the risk that they take. The matching concept is the fundamental requirement here, that is, the income and the expenses must occur during the same period of time; the income generated must be as a result of the expenses incurred, the period may be one week, three months, one year etc. (Sabo, 2007; Ayanda, 2011).

2.3 Profitability Measurement

The sole expectation from a company that remains in operation is to make profit, if otherwise; the most rational decision is to wind-up the business. Firm profitability is usually measured by return on assets (ROA), return on equity (ROE) or the net interest margin (NIM), these are the major indicator identified by (Nassreddine 2013, Ayanda 2013, Ahmed 2013). However, there is

no consensus among scholars as to which of the indicators is superior over the other, as a good measure of profitability.

In principle ROA shows how firms can generate profit from their assets, though this may be bias due to off-balance sheet activities. ROE indicates the shareholders return on their equity. The latter is mostly used by banks and it is usually referred to as the banks equity multiplier which measures the bank's leverage. Firms that have a lower leverage (higher equity) will generally report a higher ROA, but lower ROE. Since an analysis of ROE do not give cognizance to the risk associated with higher leverage (which is one of the variables of the study) and financial leverage is usually determined by regulation, ROA emerges as the most important ratio for the evaluation of firm profitability (Athanasoglou, Brissimis and Delis 2005). Though some scholars like Nassreddine (2013), Ayanda et al (2013) are of the view that the three indicators are all good. Also, Mamman (2010) used only ROE to measure profitability in his study. Profitability measure according to Atemnkeng and Nzongang (2006) are ROA, ROC and ROE. Wong et al (2006) used only ROE to measure profitability in his study. Profitability measure according to Atemnkeng and Nzongomg (2006) are ROA, ROC, and ROE. Wong et al (2006) used ROE and IRS. Dietrich &Wanzenried (2009) used ROAA and ROAE while studies of Aburime (2008), Athanasaglou et al (2005), Tobias &Themba (2011) and Ani, Ezeudu and Ugwuanyi (2012) make use of ROE as a measure of profitability. For this study, the researcher will limit profitability to return on asset (ROA) as it is used in the study of Yuvaraj and Abate (2013).The performance of listed pharmaceutical companies will be measured by return on assets (ROA). The ROA, defined as net income divided by total assets, reflects how well a company management is using the company real investment resources to generate profits (Kaguri, 2013).

2.4 Determinants of Profitability

In order to breakdown and understand the firm internal determinants ofprofitability. These specific internal determinants are: asset tangibility, liquidity, age of firm, leverage ratio and firm size which are considered to be independent variables in this study.

2.4.1 Asset Tangibility

The type of assets owned by a firm may motivate the financing behavior of firms. The tangible assets of a firm can be considered as the representatives of the real guarantees to its creditors (Kariuki&Kamau, 2014). Padron, Apolinario, Santana, Conception, Martel, & Sales, (2005) underscore the significance of tangible assets in influencing a firm's level of debt. Similarly, Gaud, Jani, Hoesli and Bender (2005) affirm that tangible assets are probable to have an effect on the borrowing decisions of a firm since they are less subject to informational asymmetries and they have a greater value than intangible assets in case of insolvency. Asset Tangibility is defined as the ratio of fixed assets to total assets and different studies have proven that the type of assets owned by a firm influence firm's profitability (Drobetz& Fix, 2003). Tangibility = Fixed Asset / Total Asset (Boadi, Antwi&Lartey 2013).

Moreover, the firm's use of tangible assets as security reduces the risk of the moral because this is a positive indicator to the creditors who can request the liquidation of these assets in the case of credit default. The tangibility of assets is characterized by the effect of the collateral values of assets on the firm's leverage level. The underlying argument behind the use of tangible assets as collateral for debt is the higher liquidation value of these assets in the event of financial distress or bankruptcy (Rajan&Zingales, 1995). Consistent with this line of argument, Rajan and Zingales (1995) posit that the greater the proportion of tangible assets on the balance sheet, the more willing lenders should be to advance loans.

2.4.2 Leverage

Leverage means magnification of either profits or losses. Leverage represents metrics tool to determine the possibility of the inability of the firm to pay its debts, particularly in the long term. Therefore, the increase in financial leverage increases the possibility of the firm's exposure to non-financial solvency and bankruptcy. In spite of the importance of using debt in the financing structure because the debt interest achieved a tax shed advantage for the company, but they may cause a conflict of interests of creditors and owners, since creditors are looking for low-risk investments while investors are looking for profitable investments, this can further be buttressed when considering the leverage level of pharmaceutical firms in Nigeria which stood at industry average of 0.054 for 2015 but, dropped to 0.042 for 2016. Financial leverage happened when an organization uses short or long term debt to magnify profits (Booth & Seen Clearly, 2008). It is a financial ratio that indicates the percentage of firm's assets that were financed with debt and it is measured as: Leverage Ratio = Total Liabilities / Total Assets (Boadi, Antwi&Lartey 2013).

In a broad sense, the solvency ratio is used to measure a company's ability to pay all its obligations, both short-term and long-term ones, especially when it is dissolved (liquidated). According to Hanafi and Halim (2007), a high debt ratio means that the company' financial leverage is also high. On one's hand, the higher debt ratio, the higher the level of uncertainty of gaining returns expected by shareholders. But on the others' hand, when used deliberately, financial leverage increase the returns for shareholders.

2.4.3 Liquidity

Liquidity of the firm is a key determinant of the firm's profitability Liquidity risk can be measured by two main methods: liquidity gap and liquidity ratios. The liquidity gap is the difference between assets and liabilities at both present and future dates. Liquidity is the amount of capital that is

available for investment and spending. Capital includes cash, credit and equity. Most of the capital is credit rather than cash. That's because the large financial institutions that do most investments prefer using borrowed money (Jeanne &Svensson, 2007).At any date, a positive gap between assets and liabilities is equivalent to a deficit. Liquidity ratios are various balance sheet ratios which should identify main liquidity trends. These ratios reflect the fact that firm should be sure that appropriate, low cost funding is available in a short time.

Liquidity position of a firm can be determined by using ratio analysis. The ratios that assist in liquidity measurement are current ratio, quick ratio and operating cash flow ratio (Operating Cash Flow Ratio = Operating Cash Flow / Current Liabilities). It is vital for organizations to concern on this because, if they need to sell inventory, they also need a customer to buy that inventory (Gosh, 2009). The operating cash flow ratio is a measure of a company's liquidity. If the operating cash flow is less than 1, the company has generated less cash in the period than it needs to pay off its short-term liabilities. This may signal a need for more capital. Thus, investors and analysts typically prefer higher operating cash flow ratios. It is important to note, however, that having low operating cash flow ratios for a time is not always a bad thing. If a company is building a second manufacturing plant, for example, this could pay off in the end if the plant generates more cash. The average liquidity for the pharmaceutical firms in Nigeria for 2016 is 1.53, which indicated that of recent the pharmaceutical firms in Nigeria have generated enough cash to meet their short term liabilities, which is a good factor that will affect their profitability positively.

2.4.4 Firm Size

Firm size is measured in our study by the natural logarithm of the accounting value of the total assets of firm. According to the literature, the relationship between the firm size and profitability is mixed (Sufian, 2009; Pasiouras and Kosmidou, 2007; Dietrich and Wanzenried,

2010). The total assets are the absolute number in the balance sheet which consists of short term funding and long-term funding and that is why logarithmic of total assets is taken to conduct the regression analysis. Large size is expected to promote economies of scale and reduce the cost of gathering and processing information. In general, large-sized banks have the advantage of providing a larger number of financial services to their customers, and hence activate more funds.

Thus, on one side the firm size can have positive effects upon the probability where there are significant economies of scale. Also, in the case of the big firms with an increased degree of diversification of its products and services, a risk reduction is recorded, with positive impact upon profitability. An investor is interested in companies that provide high returns, so he will invest his capital. The availability of these funds from investor's capital make companies easier to exercise investment opportunities. Still, in the case of the firms that become extremely large, the size can have a negative effect upon profitability because of the agency costs, the overhead of bureaucratic processes and other costs related to the administration of very big firms.

2.4.5 Firm Age

Firm age is also an important attribute on the firm's performance as it tells about the experience possessed by the firm in the operations. According to Ericson andPakes (1995), firms are learning and over time they discover good at and learn how to be more efficient. Through learning, firms specialize and find ways to standardize coordinate and speed up their production processes as well as reduce costs and improve the quality. The relationship between firm age and organizational performance can be explained from different dimensions. According to Jovanovic (1982), firms are born with fixed productivity levels which increase with time. This is so called selection effects which arise when competitive and other operational pressure eliminates the weakest firm in the

market. As results of the decreased number of firms, the remaining firms are faced with high market demand which facilitate increased average productivity level (Coad, Segarra, &Teruel, 2011). The age and performance can also be explained through learning by doing effect concept. Learning by doing take place when organizations increase their level of productivity as they learn more about the production techniques and use them to innovate their production routines (Vassilakis, 2008).According to Garnsey (1998) learning by doing effect is very important and relevant to young firms, which need to, grow, expand and improve their performance with time. He argues that young firms make search of new processes to solve for each of the problems they encounter as the learning occurs with time, the benefits of learning results into reduced labor and time to current problems hence contributing to the performance of the institutions.

The impact of firm age is also explained by the inertia effect concept; inertia effect explains the ability of the firm to change as fast as their environment changes. When the firms are very young, they have the ability to change according to environmental changes by creating and applying new strategies,creation of new products, new markets and product innovations.With age, the old firms lose their inertia and cannot change as fast as changes in the environment giving chance for the new entrants to capture the market. According to Barron et al (1994),matured firms have a high chance of suffering from liability of obsolescence and senescence. Obsolescence occurs due to their inability to fit well in the changing business environment while senescence occurs due to their inflexible rules, routines and organizational structures (Coad et al, 2011).

2.5 Review of Empirical Studies

This section focused on related studies on firm specific attributes and profitability of firms both in developed and developing countries. Emphasis is placed on the attributes used in this study as they relate to profitability of firms.

2.5.1 Asset Tangibility and Profitability

Tangibility has two conflicting effects on profitability. On the one hand, we expect a positive effect as affirmed by Himmelberg et al. (1999). Their study show that tangible assets are easily monitored and provide good collateral and thus they tend to mitigate agency conflicts between shareholders and creditors. Agency theory suggests that collateralized assets can be used as a monitoring instrument to control managers, and prevent threats of transferring wealth from debt holders to shareholders. Lenders require collateral since it is considered an explicit promise over debt. Therefore, a positive relationship is expected between tangibility asset and profitability (Getahun 2014).

On the other hand, we predict a negative correlation, because firms with high levels of tangible assets tend to be less profitable. Firms with high levels of intangible assets (in form of liquidity) have more investment opportunities in the long term, innovation and research and development (Deloof, 2003, and Nucci, 2005).The negative relationship between tangibility and profitability has been confirmed in number of studies as Rao (2007), Zeitun and Tian (2007), Weill (2008) and Nune, (2009). In addition, Majumdar and Chhibber (1999) and Margaritis and Psillaki (2007) find a positive relationship. To determine the effect of tangibility on profitability, we use the ratio (TANG); it is calculated by dividing the sum of net tangible assets to total assets.Tangible assets provide collateral to lenders in times of financial distress and act as security against debt. Tangible assets also represent protection to lenders against moral hazards resulted by the shareholder-creditor conflict (Jensen and Mekling, 1976). Therefore firms with the higher level of tangible assets are more likely to employ higher levels of leverage. According to Wessel and Titman (1988), Rajan and Zingales (1995) there is a strong negative relation between a firm's operating

performance and tangibility but a positive association with long term debt. For instance, firms with relatively risky, intangible assets tend to borrow less than firms with safe, tangible assets.

Also companies that secure their long term debt with tangible assets are in fact able to borrow at much lower interest rates than the ones with intangible assets (Bradley, Janell and Kim, 1984). In the event of financial distress intangible assets will be rather undervalued and are likely to sustain damage (Myers, 2001).

Getahun (2014) suggested that the most common argument in the literature favors a positive relationship between asset tangibility and performance. Macide (1990) concludes that a firm with high fraction of plant and equipment (tangible assets) is the asset base made the debt choice more likely and influences the firm profitability. Akisonye (2008) 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 profitability the firm is expected to be positive.

Bhutta and Hasan (2013) opined that a firm with large amount of fixed asset tends to be more profitable because of increasing its future assets value. But leverage is positively related to tangibility and is negatively related to profitability because profitability has negative relationship with tangibility. Thus we expect a negative relationship between tangibility of assets and profitability. They measured tangibility of asset (TG) as a ratio of fixed assets divided by total assets. They took total net amount of fixed assets as the numerator. Using total net amount of fixed assets means the cost of fixed assets minus accumulated depreciation.

2.5.2 Leverage and Profitability

Leverage has been considered as a fundamental variable in explaining firm performance. It is seen as an important factor in explaining the profitability of an insurance company. Leverage measures the degree to which a business is utilizing debt fund. Financing with debt funds is sometimes advantageous to the shareholder's return on their investment by making use of tax benefits associated with the borrowed funds. Similarly, as predicted by trade off theory which suggests a positive relationship between firm performance and leverage ratio and justified by taxes, agency cost and bankruptcy costs push more profitable firms towards higher leverage. Hence, more profitable firms should prefer debt financing to get benefit from tax shield (Abate, 2012). Therefore, insurance companies could prosper by taking reasonable leverage risk or could become insolvent if the risk is out of control (Daniel &Tilahun, 2012). As argued by Adams and Buckle (2000) which provide evidence that insurance company with high leverage have better operational performance than insurance companies with low leverage. Similarly, a free cash flow hypothesis which was put forward by Jensen (1986) postulated that high financial leverage can increase company's operational performance because it obliges managers to generate cash flows in order to meet their obligations to fixed claimants.

The effect of financial leverage on firm's performance have been studied by many researchers over the years, as it plays an important role in forming the success of firms, and achieving the sufficient returns. Akhtar, (2012) conducted a study aiming to discover the impact of leverage on corporate profitability, answering whither the "companies with high rates of profitability are seeking to increase leverage?" Using a sample from the oil & energy companies sector, to measure the effect of leverage on the different performance measures, including: rate of return on assets index, return on equity, the number of times to cover benefits and debt, the ratio of dividends to equity, net

operating profit, growth in sales, and earnings per share. The study concluded that the use financial leverage results in improved financial situation, in another words showing that there is a positive relationship between leverage and the performance of the companies.Furthermore, Subai'i (2012) also studied the relationship between financial leverage & return on assets in the Kuwaiti economic sector, having a sample that consisted of fifty-four companies from the Kuwaiti public shareholding companies. The study results showed that there is positive relationship between financial leverage & return on investment for all of the economy sectors. Al-Tally (2014), have also researched the effect of financial leverage on firms profitability in Saudi Arabia's public listed companies. The study sample was 57 publicly trading firms listed in Saudi stock exchange for the years 2002-2010. Independent variable used in the study were financial leverage and zakat whereas profitability was used as dependent variable. To discover the relationship among the variables several techniques were used including: maximum & mean factor analysis, standard deviation, ANOVA and SPSS Software. The overall results concluded that positive relationship between financial leverage and performance.

Javed, Maryam and Sadia (2012), conducted a research to measure a relationship between the financial leverage and the profitability of the fuel and energy sector in Pakistan. The paper also examines the generalization that firms with higher profitability may choose high leverage by using various statistical tools. The findings of the study show a positive relationship between the financial leverage and the profitability of the companies by accepting the alternate hypothesis H1 and Ho is rejected. The results of the study confirm that the firms having higher profitability may improve their profitability by having high levels of financial leverage. The study provides evidence by evaluating different facts. It reveals that the players of the fuel and energy in Pakistan can

improve at their profitability by employing the financial leverage and can arrive at a sustainable future growth by making vital decisions about the choice of their optimal capital structure.

The studies mentioned above provided empirical evidence supporting the theory of the financial leverage positive effect on the profitability of a firm, however other studies that have been conducted on different samples showed different results. The pecking order theory of capital structure shows that if a firm is profitable, then it is more likely that financing will be from internal sources rather than external sources. In other words, firms tend to use internally generated funds first and then resort to external financing. This implies that profitable firms will have less amount of leverage (Myers and Majluf, 1984).By this profitable firms that have access to retained profits can rely on them as opposed to depending on outside sources (debt). In developing countries most of studies like, Antoniou et al, (2002) and Bevan and Dan bolt (2002), Booth et al, (2001), Pandey (2001), Wiwattanakantang (1999), Chen (2003) and Al-Sakran (2001) all found a negative relationship between leverage ratios and profitability.

As the study of Jameel (2013) concluded that the financial leverage negatively affects the accounting performance measures, and the market value of the firms and this impact extends for several subsequent years. The objective of the study was to examine the impact of financial leverage on the different performance measures, and to discover which one of them will be the more affected by financial leverage. Testing the hypothesis on a sample that was extracted from firms listed at Palestinian Security Exchange (consisting of twenty publicly listed corporations during the period 2004-2011). Using the multi regression model, and return on assets (ROA) return

on equity (ROE), return on sales (ROS), and sales growth as accounting performance measures, and Tobin's q to measure & represent the market value of the company.

Similar to the work of Mule and Mukras (2015), on financial leverage and performanceof listed firms in a frontier market: panel evidence from Kenya. The study was intended to investigate the relationship between financial leverage and the profitability of listed firm in Kenya. Annual data for the period 2007 – 2011 was used. Using various panel procedures, the study finds reasonably strong evidence that financial leverage significantly, and negatively, affects the performance of listed firms in Kenya.

Innocent, Ikechukwu and Nnagbogu (2014), also conducted a research on the effect of Financial Leverage on Profitability of quoted Pharmaceutical Companies in Nigeria over a period of twelve (12) years (2001–2012) for thethree (3) selected companies. The study employed three (3) financial leverage for the independent variablessuch as: debt ratio (DR); debt-equity ratio (DER) and interest coverage ratio (ICR) in determining their effecton profitability for Return on Assets (ROA) as dependent variable. The ex-post facto research designwas used for this study. The secondary data were obtained from the financial statement (Comprehensive incomestatement and Statement of financial position) of the selected pharmaceutical companies' quoted on theNigerian Stock Exchange (NSE). Descriptive statistics, Pearson correlation and regressions were employed andused for this study. The results of the analysis showed that debt ratio (DR) and debt-equity ratio (DER) havenegative relationship with Return on Assets (ROA) while interest coverage ratio (ICR) has a positiverelationship with Return on Assets (ROA) in Nigeria pharmaceutical industry. The analysis also revealed thatall the independent variables have no significant effect on profitability of the sampled companies. Theresults further suggested that only 16.4% of the variations on the

dependent variable are caused by theindependent variables in our model suggesting that 83.6% of the variations in profitability are causedby other factors outside our model. Based on the above findings, the researchers now recommend thatcompanies' management should ensure that financial decisions made by them are in consonance with theshareholders' wealth maximization objectives which encompasses the profit maximization objective of the firm.The amount of debt finance in the financial mix of the firm should be at the optimal level so as to ensureadequate utilisation of the firms' assets. The management should also monitor the interest charged on debtfinancing to avoid liquidation of the company.

Hashemi and Zadeh (2012), also concluded from their study that companies that have high leverage will distribute less profits to shareholders when compared to companies with low leverage, as result of the reversed correlation between financial leverage & dividend policy. The above was concluded when they conducted a study aiming to test the effect of financial leverage on dividend policy, using multiple regressions on a sample of 74 public joint stock companies of the companies listed on Tehran Stock Market in the period of 2003-2010.

Tanni, (2012) tested the effect of working capital polices & financial leverage on the performance of "45" Jordanians firms listed in the ASE stock exchange. Aiming to find the relationship between profitability and debt, profitability and size, profitability and debt. Using the SPSS statistics to determine the nature of the relationships mentioned above, test of correlation, ANOVA, and multiple regression analysis were performed. The finding indicated that firm's working capital management policies, financial leverage, and size have a significant relationship to the net income, ROE, and ROA. Furthermore, the study conclude that that working capital polices and size have a positive effect on profitability/ performance, while financial leverage have a negative effect on profitability.

Contrary to the above, Ahmed et al (2011) argued that if companies are highly leveraged, it may result to risk of bankruptcy if they are unable to make payment on their debts, and they may also be unable to find new lenders in the future.

For instance, Chen and Wong (2004) stated that leverage beyond the optimum level could result in higher risk and low value of the firm.

Evidence shows positive and significant association between financial leverage and firm performance. Carson and Hoyt (1995) and Daniel and Tilahun (2012), found that leverage is significantly and positively related to the profitability of insurance companies.

Conversely, a negative relationship was found between leverage and profitability of insurance companies by Browne and Hoyt (2001), Ahmed et al (2011), Sumaira and Amjad (2013) and Yuvaraj and Abate (2013).

2.5.3 Liquidity and Profitability

Another aspect of firm specific factor that determine the profitability of companies is the liquidity as confirmed in related literatures. Liquidity of the firm is an important factor that influences the performance of the firm (Chen & Wong, 2004). Liquidity in its general sense is referred to as the ratio of current assets to current liabilities. In other words, an assessment of an organizational ability to meet its current obligations when they fall due is termed liquidity. The profitability of any business can be assessed using the well-known concept of liquidity. The significance of liquidity to company performance might lead to the conclusion that it determines the profitability level of company. Although a number of studies have been done, the nature of liquidity impact on profitability is still not entirely recognized (Sanghani 2014).

In line with the explanation above, Daniel and Tilahun (2012) revealed that companies with more liquid assets are less likely to fail because they can realize cash even in very difficult situation. It is

therefore expected that insurance companies with more liquid assets will outperform those with less liquid assets. However, in accordance with the theory of agency costs, higher liquidity of assets could increase agency costs for owners because managers might take advantage of the benefits of liquid assets (Adams & Buckle, 2000).

Empirical evidence with regards to liquidity revealed mixed results. Study conducted by Ahmed et al (2011) in Pakistan observed that liquidity has statistically insignificant relationship with return on asset. Several studies have been conducted on the relationship between liquidity and performance of insurance companies under review. Recent studies conducted by Sumaira and Amjad (2013), Daniel and Tilahun (2012) all revealed insignificant relationship between liquidity and profitability of insurance companies. In contrast, studies conducted by Almajali and Yahya (2012), Browne and Hoyt (2001), and Carson and Hoyt (1995) found that liquidity is positively and strongly related to profitability of insurance companies. More also, Abate (2012), Yuvaraj and Abate (2013), found a negative significant relationship between liquidity and performance of insurance companies.

Olongo (2013) adopted a descriptive research design. Regression analysis model was used in which the dependent variable was the ROA. The independent variables were the annual liquidity ratios and the annual fraud loss. The multiple regression analysis was used to determine how each of the dependent variable relates to ROA. The result showed that banks' profitability variable Return on Assets (ROA) has significantly affected by liquidity ratios and fraud loss with positive correlation. The strong and positive Pearson correlation coefficients imply that financial fraud loss and liquidity ratios had a strong and significant influence of profitability of commercial banks in Kenya for the period considered.

Lartey, Antwi and Boadi (2013), conducted a study on the Relationship between Liquidity and Profitability of Listed Banks in Ghana. The study sought to find out the relationship between the liquidity and the profitability of banks listed on the Ghana Stock Exchange. Seven out of the nine listed banks were involved in the study. The study was descriptive in nature. It adopted the longitudinal time dimension, specifically, the panel method. Document analysis was the main research procedure adopted to collect secondary data for the study. The financial reports of the seven listed banks were studied and relevant liquidity and profitability ratios were computed. The trend in liquidity and profitability were determined by the use of time series analysis. The main liquidity ratio was regressed on the profitability ratio. It was found that for the period 2005-2010, both the liquidity and the profitability of the listed banks were declining. Again, it was also found that there was a very weak positive relationship between the liquidity and the profitability of the listed banks in Ghana.

Ben-Caleb, Egbide, Olubukunola, Uwuigbe, and Uwalomwa (2013) conducted a study on Liquidity Management and Profitability of Manufacturing Companies in Nigeria. Liquidity and its management determines to a great extent the growth and profitability of a firm. This is because either inadequate liquidity or excess liquidity may be injurious to the smooth operations of the organization. This seeming controversy has attracted a lot of interest in the subject of liquidity management. The primary aim of the paper was to investigate the relationship between liquidity and profitability. The analysis is based on a sample of 30 manufacturing companies listed on the Nigeria Stock Exchange for the period 2006- 2010. The result suggests that current ratio and liquid ratio are positively associated with profitability while cash conversion period is negatively related with profitability of manufacturing companies in Nigeria. The association in all the cases was however, statistically insignificant, indicating low degree of influence of liquidity on the

profitability of manufacturing companies. Hence, the overall state of liquidity should be improved by establishing more realistic credit policy which will engender shorter cash conversion period (CCP), hence have a favourable impact on the profitability of the company.

Bala, Garba and Ibrahim (2016), researched on corporate liquidity and profitability of listed food and beverages firms in Nigeria. The objective of this study is to examine the effect of corporate liquidity and profitability of listed Food and Beverages Firms in Nigeria. The study covers the period of six years 2009 to 2014. Data for the study were extracted from the firms' annual reports and accounts. After running the OLS regression, a robustness test was conducted for validity of statistical inferences, the data was empirically tested between the dependent and the independent variables. A multiple regression was employed to test the model of the study using Robust OLS. The results from the analysis revealed a strong positive relationship between quick ratio, accounts payable, IFRS, firm size and ROA of Listed Food and Beverages Firms in Nigeria, while accounts receivable was found to be inversely significantly related to ROA of Listed Food and Beverages Firms in Nigeria. Cash conversion cycle was inversely but statistically not significantly related to ROA.

Ahmed (2013); Ajanthan (2013); Alavinasab and Davoudi (2013); Bolek (2013); Manyo and Ogakwu (2013); Ajao and Small (2012); Azam and Haider (2011); Haq, Sohail, Zaman and Alam (2011); and Rahman (2011) in their studies examined the influence of liquidity on return on assets. The results of studies revealed a significant positive relationship between current ratio and return on assets. Results of study inferred that companies with strong liquidity ratios tend to face lower risk and better performance. The revealed nature of the relationship is contrary to trade-off relationship between liquidity and profitability as both are conflicting goals.

Bhunia, Khan and Mukhuti (2011) observed a mixed impact of liquidity on profitability during the investigation of the top four Steel companies in India. Results showed that current ratio of Tata Steel Ltd is positively associated with profitability, current ratio of Lloyds Steel Ltd is negatively associated with profitability, current ratio of Kalyani Steels Ltd is negatively associated with profitability and the current ratio of JSW Steel Ltd is positively associated with profitability. Kaur and Silky (2013) studied all the companies listed on the National Stock Exchange of India to analyze the impact of working capital management in terms of liquidity management on profitability. The revealed result is consistent with the trade-off theory that there is a negative relationship between current ratio and return on assets. Agha (2014) and Afeef (2011) founded that there is no significant relationship exist between current ratio and profitability (ROA).

Ismail (2016), studied the Impact of Liquidity Management on Profitability of Pakistani Firms: A Case of KSE-100 Index. This study has examined the impact of the liquidity management on the performance of the 64 Pakistani non-financial companies constituting Karachi Stock Exchange (KSE) 100 Index for the period of 2006-2011. To derive the results of the study; descriptive statistical analysis, correlation analysis and multivariate regression tools of analysis were applied. According to the results of analyses, it is found that liquidity variables current ratio and the cash conversion cycle have significant positive impact on profitability (ROA). Further, results indicate that high current ratio and longer cash conversion cycle lead firms towards better performance. This study suggested firms to relax their credit sales policies, and devise inventory & collection turnover system in a wise manner to be more accessible to a large number of customers.

2.5.4 Firm Size and profitability

Empirically, firm size is measured as natural logarithm of total asset of a company. It is however established in literatures that company size is positively and strongly related to profitability (Ahmed et al 2011). The positive relationship is supported by Hardwick (1997) who opined that larger insurance companies usually have greater capacity or strength for dealing with adverse market fluctuations than small companies. Trading-off theory assumes that large firms are more diversified, have lower risk, better reputation, more stable cash flows and fewer hazards to be liquidated. This gives large firms easier access to the capital markets with negligible debt costs. Thus these firms are stronger to face bankruptcy and financial distress (Getahun 2014).

In addition, larger companies are better able to recruit skillful employees with professional knowledge compared with small companies and finally, the larger insurance companies enjoy economies of scale in terms of labour cost which is the most essential production factor for delivery insurance services. Similarly, Wyn (1998) posited that large corporate size also enables insurers to effectively diversify their assumed risks and respond more quickly to changes in market conditions.

The effect of company size on profitability issue has been addressed by different international studies. These studies which were applied worldwide, mostly have been used the return on assets ratio or the net profit or both of them as a measures for profitability, and both of total assets and total sales, and in some studies the number of employees as a measures for company size for a different time periods, different sample sizes, and a different company sectors.

Discussions of the role of firm size in explaining firm performance have been ongoing in the fields of business organization and industrial economics. Early research, notably by Jelic et al (2001) and

Kakani et al (2001) emphasizes the importance of scale economies and other efficiencies in larger firms. On the other hand, the structure-conduct-performance paradigm highlights the importance of market concentration and conduct in explaining profitability. In particular, Baumol (1967) argues that the advantages of larger firms stem from their market power and greater access to capital markets. Caves and Porter (1979), and Porter (1998) also attribute variations in profitability to group strategic behavior in different industries.

With a few exceptions, notably Hagedoorn and Cloodt (2003), there is considerable evidence in early empirical studies (e.g. Liargovas and Skandalis, 2008; Merikas et al, 2006) to support a positive relationship between firm size and profitability. However, as Prasetyantoko and Parmono (2008) point out, many of these studies neglect the possible effects of other factors, such as market structure, entry barriers and firm strategies. More recent studies have attempted to control for these market and firm-specific characteristics and found more equivocal support for a relationship between firm size and profitability. For instance, Tarawneh (2006) find a firm's market share instead of its size plays a significant role in explaining its relative performance. Amato and Amato (2004) find evidence in US retailing industries to support Porter's (1998) conjecture that both small and large firms can effectively capture niche markets, while middle-sized firms are 'stuck in the middle' in the sense that they are less competitive than their counterparts in either end of the firm size distribution.

Organizational size effects have been the focus of many prior studies. The benefits of organizational size may accrue to the profitability of the organization. Larger organizations seem able to generate stronger competitive capability than their smaller rivals as a result of their superior access to resources, greater market power, and economies of scale and scope (Glen et al, 2003).

However, organizational size effects are mixed, since some studies confirm them (e.g. Tarawneh, 2006; Sarkaria and Shergill, 2000), while others find either mixed effects or no effects at all (e.g. Goddard et al, 2006; Mariuzzo et al, 2003).

Akbas and Karaduman (2012) have studied the effect of firm size on profitability on the firms operating in manufacturing sector, listed in ISE between the years 2005-2011. Results of the study showed that firm size has a positive effect on profitability.

Dogan (2013) examined the impact of size, age, liquidity and leverage on profitability for 200 companies listed in Istanbul Stock Exchange for the years 2008 to 2011. The results indicated a positive effect for both the size and the liquidity on the profitability. While found a negative impact for age and leverage on the profitability.

Kipesha (2013) examined the impact of Size and Age on Firm Performance in Tanzania Microfinance Institutions. The results indicated both firm size and age have an impact on Microfinance performance in Tanzania in terms of efficiency, sustainability, profitability and revenue generation capacity.

Ehi-Oshio et al. (2013) conducted a research entitled “Determinants of Corporate Profitability in Developing Economies”. The results indicated a positive relationship exist between firm size and corporate profitability, and financial leverage and corporate profitability.

Niresh and Velnampy (2014) examined effects of firm size on profitability of quoted manufacturing firms in Sri Lanka for 15 companies listed in Colombo Stock Exchange for the years 2008 to 2012. The results indicated there is no indicative relationship between firm size and profitability of listed manufacturing firms.

Kioko (2013) studiedthe relationship between firm size and profitability of commercial banks in Kenya. This research was carried out using a correlational design. The target population of

this study was all the 43 commercial banks in Kenya as at 31st December 2012. The panel data to be used was data from 1998 to 2012. This study used secondary data which was collected from Central Bank of Kenya and bank themselves. Firm size was measured using net assets, total loans, total deposits (measured in Kenya shillings) and number of employees. Profitability was measured using Return on Assets (ROA). Data which was collected was analyzed using correlation and regression statistics. Analyzed data was presented in tables. Study findings indicate that there is moderate correlation between three of the studied factors of bank size which include total deposits, total loans and total assets. The relationship between three of the independent variables, namely, total loans, total deposits, and total assets and the dependent variable (profitability- ROA) of commercial banks were all found to be statistically significant. Total deposits and total loans had relatively stronger effects on profitability compared to total assets. There was no significant relationship between number of employees and profitability for commercial banks in Kenya.

Abiodun (2013) tested the effect of the size of the company on its profitability for the manufacturing companies listed in the Nigerian Stock Exchange during the period between the year 2000 to 2009 and he found a significant positive relationship between size measures and profitability. In a similar study with a bigger sample, Dogan (2013) who used the data of 200 companies listed in Istanbul Stock Exchange (ISE) for the years from 2008 to 2011 found a significant positive relationship between size measures and profitability.

Saliha and Abdessatar (2011) tested the factors affecting profitability of 40 companies operating in Tunisia for the period between the 1998 and 2006, and their results showed a significant and positive relation between the size of the company and its profitability. Another Turkish study by Karadeniz and İskenderoğlu (2011) has analyzed the variables affecting the return on assets of the

tourism companies listed in ISE, and the findings also revealed positive and statistically significant relations between total assets and size.

The other similar previous studies also indicated the same results, but these studies used a more integrated samples. For example, Stierwald (2009) investigated the factors influencing the profitability for 960 big Australian companies for the period between the year 1995 and 2005. The findings revealed that company size affects company profitability positively. Another similar US study by Lee (2009) applied on 7000 US firms during the years between 1987 and 2006 have also found a significant and positive relation between the size and profitability. In the same manner, an older study by Fiegenbaum and Karnani (1991) used approximately 3000 companies' data from 83 sectors between the years of 1979 to 1987, and the results also indicated a significant and positive relationship between company size and profitability. Lastly, an old study by Hall and Weiss (1967) which used Fortune 500 companies in the US has also indicated a significant and positive relation between company size and profitability.

In the contrary, some other similar studies found a weak relationship between company size and profitability, or found no relationship between company size and profitability, or found insignificant and negative relationship between company size and profitability for one or more sector companies. A recent study by Niresh and Velnampy (2014) explored the effects of firm size on profitability for 15 manufacturing companies active in Colombo Stock Exchange (CSE) for the period from 2008 to 2012 has found no relationship between firm size and profitability, and size has no profound impact on profitability. In another recent study, Banchuenvijit (2012) studied the factors affecting performances of Vietnamese companies; the results indicated a significant negative relation between total assets and profitability and no significant relationship between number of employees and profitability. Jonsson (2007) investigated the relation between company

size and its profitability for 250 companies consisting banks, fish processing companies, and civil engineering consulting companies in Iceland over the period between 2000 and 2004. Jonsson (2007) also found a negative and weak relationship between the company size and its profitability for all the companies of the study irrespective the proxies used for size and profitability, except a weak positive relation was found for the bank companies. Another European study by Goddard, Tavakoli and Wilson (2005) investigated the relation between company and profitability, and also between company size and market share for manufacturing and service companies located in four European countries for the period between 1993 and 2001. The study revealed that the increase in the company size tend to reduce its profitability. However, any increase in market share was associated with another increase on company profitability. Goddard, Molyneux and Wilson (2004) also tested the profitability of European banks during the 1990s. The results showed a weak relationship between company size and profitability. However, Majumdar (1997) tested the effect of the company size and the company age on its profitability level for 1020 Indian companies, and the results of his study indicated that big firms have a higher profitability compared to small firms. Lastly, an old study by Shepherd (1972) has found a significant but negative relationship between company size and profitability.

Pi and Timme (1993) suggested that operational performance could be inversely related to firm size.

This is supported by the argument put forward by Jensen and Murphy (1990) that as an organization grows, it often becomes more difficult for owners to efficiently and effectively monitor and control aberrant behaviors by managers. In view of this, managers have incentive to

pursue corporate size related objectives such as increasing market share rather than maximizing shareholders wealth.

In addition, Majumdar (1997) opined that as firms become larger, they might suffer from inefficiencies leading to inferior profitability. Therefore theory is equivocal on the precise establishment of the relationship between the firm size and operational performance of companies. Several studies have therefore been conducted to examine the effect of firm size on profitability. However, the empirical evidence of the relationship between firm size and profitability reveals mixed results. For example, recent studies conducted internationally by Yavaraj and Abate (2013), Daniel and Tilahun (2012), Abate (2012), Almajali and Yahaya (2012) and Malik (2011) suggested that firm size is positively and strongly related to profitability of insurance companies. On the other hand, study conducted by Adams & Buckle (2000) found no significant relationship between firm size and profitability of insurance companies.

2.5.5 Firm Age and Profitability

Age of the firm is one of the non-financial factors in explaining and predicting the profitability of companies and it is measured by taking difference between observation and establishment year of the company and thereafter taking natural logarithm of the outcome (Malik, 2011). In literature, age is seen as the reputation of the company because the companies that have been in the market for a long period of time have acquired reputation since they have proven their ability to fulfill long term contract obligations and their financial strength (Dieter 2011). Betra (1999) and Lumpkin and Dess (1999) argued that firm age has an influence on its performance. The reasons for this assertion were clearly stated in the work of Liargovas and Skandals (2008) that older firms

are more experienced, have enjoyed the benefits of learning and are not prone to liabilities of newness and can therefore enjoy superior performance. In a similar vein, older firms may also benefit from reputation effects which allow them to earn higher profit margin on sales (Almajali, 2012). In view of this, Swiss Re (2008) in his study found that there is a significant positive association between age of the company and profitability. That is, the older the firm, the better the performance. He also opined that age is the strongest determinant of profitability.

In line with the above, Almajali and Yahya (2012) argued that an older well established company is likely to be more proficient in gathering, processing and releasing information when needed because of learning experience. In a similar vein, Liargovas and Skandal (2008) opined that older firms are prone to inertia and the bureaucratic ossification that goes along with age; they might have developed routines which are out of touch with market conditions. In this case, an inverse relationship between firm's age and profitability could be observed.

Osunsan, Nowak, Mabonga, Pule, Kibirige and Baliruno (2015), conducted a research on Firm Age and Performance in Kampala, Uganda: A Selection of Small Business Enterprises. This study sought to find out the effect of firm age on performance, using both financial (net profit before tax) and nonfinancial (operational) performance indicators. An ex post facto, descriptive correlation, descriptive comparative and cross-sectional survey design was used. A sample of 409 firms was used with age ranges in six categories. Cronbach's Alpha reliability coefficient test (α=0.884) and the Content validity ratio (CVR) for the instrument on performance was 0.93 (Mean CVR=0.93). Two hypotheses were tested: (i) there is a significant difference between firm age and the level of performance and (ii) there is a significant positive relationship between firm age and performance.

Researchers have begun to pay more attention in the role of age on performance of surviving firms (Coad, Segarra&Teruel, 2013). Though there are studies that show the different relationship

between business age and performance. The relationship between firm age and firm performance is well documented but presents contrasted results (Durand &Coeurderoy, 2001). Studies such as Coad, et al (2013), Ismail, Che, Rose, Abdullah and Uli (2010), Gaur and Gupta (2011), and Ericson and Pakes (1995) support the positive relationship, arguing that experience through age helps the business to perform better. Coad, et al (2013) found both positive and negative relationships. They found that ageing businesses experience increasing levels of productivity, profits, larger size, lower debt ratios, and higher equity ratios. On the other hand they also found that older businesses have lower expected growth rates of sales, profits and productivity, they have lower profitability levels. While studies such as Agarwal and Gort (2002) pointed out a negative relationship, arguing that there can be 'decay' as a result of age leading to poor performance. Pastor and Veronesi (2003) reported a similar effect. Loderer and Waelchli (2010) found that as the firm ages its performance drops, thus firm age having a negative effect on performance.

Empirical evidence with respect to firm's age and profitability however appears to be inconclusive. While Yuqili (2007), Browne and Hoyt (2001) and Swiss Re, (2008) found a positive significant relationship between age and profitability of insurance companies, under review. On the other hand, Sumaira and Amjad (2013) found a negative significant relationship. However, Yavaraj and Abate (2013), Ahmed et al (2011), Abate (2012), Malik (2011), Al-shami (2008) and Daniel and Tilahun (2012) did not find any significant relationship between age and firm performance.

Several earlier studies (Batra, 1999, Lumpkin &Dess, 1999) argued that firm age has an influence on its performance.(Sorensen & Stuart ,2000) argued that organizational inertia operating in old firms tend to make them inflexible and unable to appreciate changes in the environment. Newer and smaller firms, as a result, take away market share in spite of disadvantages like lack of capital, brand names and corporate reputation with older firms.(Kakani., Saha,, and Reddy, 2001)

Regarding firm age, older firms are more experienced, have enjoyed the benefits of learning, are not prone to the liabilities of newness, and can, therefore, enjoy superior performance. Older firms may also benefit from reputation effects, which allow them to earn a higher margin on sales. On the other hand, older firms are prone to inertia, and the bureaucratic ossification that goes along with age; they might have developed routines, which are out of touch with changes in market conditions, in which case an inverse relationship between age and profitability or growth could be observed (Liargovas, and Skandalis, 2008).

2.5.6 Determinants of Profitability and Profitability

A study by Maigua and Mouni (2016) investigated the determinants of banks' profitability. A sample size of 26 banks was used in the study and multiple regression analysis to analyze data. The study results found that inflation rates, discount rates and exchange rates positively affected the banks' performance whereas reserve requirement ratio negatively influenced the banks' performance. It was concluded that exchange rates, inflation rates and high discount rates lead to banks' higher performance whereas high levels of reserve requirement lowered the banks' performance. However, it was discovered that the study only consider external or macro-economic determinants of profitability.

Alemu (2015) examined determinants of commercial banks profitability of eight banks in Ethiopia from for 10 years from 2002 - 2013. The study used multiple linear regressions and the fixed effect regression model to analyze data. The study established that size of banks; capital adequacy and gross domestic product have a positive and statistically significant relationship with profitability of banks. The findings of the study also revealed that liquidity risk, operational efficiency, funding cost and banking sector development have a negative and statistically significant relation with profitability of banks. Finally, the study found that the relationship between efficiency of

management, efficiency of employee, inflation and foreign exchange rate was statistically insignificant. The study did not consider some important internal determinants such as; leverage, age and asset tangibility.

Samhan and Al-Khatib (2015) studied 'determinants of profitability of Jordan Islamic Bank' during the period 2000-2012. The profitability (Dependent variable) is measured by Return on Assets (ROA), Return on Equity (ROE), and Return on Unrestricted Investment Accounts (ROUIA). On the other hand, the Independent variables are divided to two categories which are macroeconomic variables and bank specific factors. Macroeconomic variables are inflation rate, Gross Domestic Product (GDP), and Unemployment rate. Bank specific factors are total income divided by total assets, equity ratio, debt ratio, bank size, and liquidity ratio. Using panel data technique, the researcher discovered that there is significance level and positive relationship between ROA on one hand. Inflation, equity ratio, and bank size on the other hand. Also, there is not significant but positive relationship between ROA and GDP. On the other hand, there is significance level and negative relationship between ROA and unemployment rate, and Debt ratio. Moreover, there is insignificance level and negative relationship between ROA and total income to total assets, and liquidity ratio. However, the study was conducted on Islamic banks which has limited risk exposure.

Mwangi and Murigu, (2015) analyzed the 'determinants of profitability in general insurance companies in Kenya'.The study employed multiple linear regressions, with return on assets as the dependent variable, and considered all the general insurance companies in Kenya for the period 2009-2012. Profitability was positively related to leverage, equity capital, management competence index and negatively related to size and ownership structure. The study did not find a relationship between performance and retention ratio, liquidity, underwriting risk and age. The

study only limited to seven general insurance which the findings cannot be apply in other sectors of the country.

Ayako, Kungu and Githui (2015) researched on the 'determinants of the performance of firms listed at the Nairobi Securities Exchange' between the period of 2003 to 2013 using panel data. The measured variables are leverage, liquidity and size. The findings showed that leverage of the firm had negative sign and was statistically significant in explaining the performance of companies. While Firm size and liquidity were however found to be statistically insignificant in determining the performance of these firms. However, the study was carried out in Kenya, while the determinants of performance is country's specifics.

Vintilă and Nenu (2015) carried out analysis on the determinants of corporate profitability of Bucharest Stock Exchange listed companies were considered.The analysis was conducted on Romania's case and included a sample of 46 companies listed on the Bucharest Stock Exchange, within 2009-2013 period. The findings of the study showed that profitability is positively related with company size while leverage has negative impact on profitability. Meanwhile, the study only considered two internal determinants of performance in Romania.

Hunjra, Chani, Javed, Naeem and Ijaz (2014) conducted a research on the 'impact of micro economic variables on firm's performance in Pakistan Cement sector. 26 listed cement companies were observed using panel data analysis between the periods of 2002 to 2012. The researchers found out that all four variables (size, age, growth and leverage) have significant impact on the profitability of the firm (ROA). However, the study was limited to cement sector which the findings cannot be applicable to other sectors in Pakistan.

Burca and Batrinca (2014) conducted a research on 'the determinants of profitability in the Romanian insurance market'. The researcher's' variables are; financial leverage, company size, growth of gross domestic product, written premiums, underwritten risk, risk retention ratio and solvency margin. Using panel data techniques, the researchers discovered that the determinants of profitability in Romania Insurance market are company size, growth of written premiums, underwriting risks, risks retention and solvency margin which are positively related to profitability. However, the determinants of performance considered in the study were peculiar to insurance sector which differs to other sectors in any country.

Demirhan and Anwar (2014) examined 'factors affecting the profitability of firms during the financial crisis in Turkey.Sample of 140 non-financial firms from Borsa Istanbul has been investigated for the financial crisis period of 2008. Market-to-book ratio has been taken as the measure of performance in the study whereas eleven financial ratios have been taken as independent variables. A factor analysis has been applied on independent variables and categorized them into four categories. Then multiple regression analysis has been applied by taking the factor scores of our four factors. Results of the study suggest that liquidity of the firm affects the firm's market value positively whereas high leverage inversely affects the firm performance during crisis. The general weakness can be seen from the model adopted for this study. It used market to book value ratio as it dependent variable which may not be an ideal measure of performance.

Pathirawasam (2013) studied the internal factors which determine profitability of firms with special reference to ownership concentration and other firm specific factors on company profitability of 102 listed companies at Colombo Stock Exchange (CSE) over a two-year period of 2008 to 2009. The data are gathered through annual reports of respective companies. Both pooled and ordinary least square (OLS) regressions are used to analyze the data. Using ROA as the

dependent variable, it is revealed that ownership concentration does not have a significant positive relationship with ROA. Also, firm size, quick ratio and inventory having positive impact on ROA but the debt ratio negatively relate with profitability. However, the scope 2008-2009 for the study limited the application of the findings due to the fact that the time lag is very short which cannot really give a comprehensive effect of those internal factors on performance.

Sumaira and Amjad (2013) studied the determinants of profitability in insurance sector of Pakistan with a panel data set of 31 insurance firms (life insurance sector and no-life insurance) of Pakistan from 2006-2011. To investigate the determinants of profitability, panel data techniques (fixed effects and random effects models) were employed and then Hausman's specification test was applied to select the more effective model. The test proved that fixed effects model was the more appropriated model for the study. The outcomes show that leverage, size, earnings volatility and age of the firm were significant determinants of profitability while growth opportunities and liquidity were not significant. However, the study was on insurance sector which is services sector and this limited the findings to be applicable in the manufacturing sector.

Yuvaraj and Abate (2013) examined the effects of firm specific factors of age of company, size of company, volume of capital, leverage ratio, liquidity ratio, growth and tangibility of assets on profitability proxied by Return on Assets in Ethiopia. The sample of the study included nine of the listed insurance companies over nine years (2003-2011).From the regression results; growth, leverage, volume of capital, size, and liquidity were identified as most important determinants of profitability. Hence, growth, size, and volume of capital are positively related. In contrast, liquidity ratio and leverage ratio are negatively but significantly related with profitability. The age of companies and tangibility of assets are not significantly related with profitability. However, the

study was on insurance sector which is services sector and this limited the findings to be applicable in the manufacturing sector.

Daniel and Tilahun (2012) investigated the impact of firm level characteristics; size, leverage, tangibility, Loss ratio (risk), growth in written premium and liquidity and age on performance of insurance companies in Ethiopia. Return on total assets (ROA) a key indicator of insurance company's performance was used as dependent variable while age of company, size of the company, growth in writing premium, liquidity, leverage and loss ratio were independent variables. The sample includes 9 insurance companies over the period 2005-2010. The results of regression analysis revealed 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. However, growth in written premium, insurers‟ age and liquidity have statistically insignificant relationship with ROA. However, the study was on insurance sector which is services sector and this limited the findings to be applicable in the manufacturing sector.

Ahmed, Naveed and Usman, (2011) also investigated the impact of firm level characteristics on the performance of the life insurance sector of Pakistan over the period of seven years from 2001 to 2007. The results of the OLS regression analysis revealed that leverage is negatively and significantly related to the performance of life insurance companies. Growth of written premium and age of a firm has also negative relation to performance of life insurance companies but they are statistically insignificant. The study also showed that firm size is positively and significantly related to the performance of life insurance companies. This indicates that performance of the large size life insurance companies is better than the small size life insurance companies. According to

this study, tangibility of assets and liquidity also has a positive relation to performance of life insurance companies but they are statistically insignificant.However, the study was on insurance sector which is services sector and this limited the findings to be applicable in the manufacturing sector.

Another study by Malik (2011) examined the determinants of Pakistan's insurance companies' profitability proxied by return on total assets. The variables tested were age of company, size of the company, the volume of capital, leverage ratio and loss ratio. The result shows that there is no relationship between profitability and age of the company and there is a significant and positive relationship between profitability and size. On the other hand, the analysis suggests that leverage ratio and loss ratio have a negative impact on profitability of insurance companies in Pakistan.However, the study was on insurance sector which is services sector and this limited the findings to be applicable in the manufacturing sector.

In considering the above literatures reviewed, there are many gaps that the studies refused to fill which can be generalized that the study considered mostly services sectors and the findings cannot be applied in the manufacturing sector of Pharmaceutical. Also, most studies were from developed countries which the findings cannot be apply in Nigeria because the effect of the determinants of performance is country's specifics.

2.6 Theoretical Framework

This study is informed by two theories namely: Agency theory and resource based theory. These theories provide theoretical evidence on the relationship between liquidity, firm age, asset tangibility, firm size and leverage which are determinants of profitability and profitability of firms. The explanation of each of the theory is provided below:

2.6.1Agency theory

The principal–agent problem or agency dilemma occurs when one person or entity (the "agent") is able to make decisions on behalf of another person or entity (the "principal"). The dilemma exists because sometimes the agent is motivated to act in her own best interests rather than those of the principal. Researchers have extensively studied the conflict between managers and ownersregarding the functioning of the firm, although, the research on understanding the differences in behavior of different shareholder identities is limited. Berle and Means (1932) indicates that with an increase in professionalism of management, firms might be operating for the managers‟ benefit rather than that of the owners. The principal-agent framework is used by Jensen and Meckling (1976) to explain the conflict of interests between managers and shareholders. The agency problem developed by Coase (1960), Jensen and Meckling (1976) and Fama and Jensen (1983)) is an essential part of the contractual view of the firm.

Problem arises where the two parties have different interests and asymmetric information (the agent having more information), such that the principal cannot directly ensure that the agent is always acting in his best interests, particularly when activities that are useful to the principal are costly to the agent, and where elements of what the agent does are costly for the principal to observe. Moral hazard and conflict of interest may arise. Indeed, the principal may be sufficiently concerned at the possibility of being exploited by the agent that he chooses not to enter into a transaction at all, when that deal would have actually been in both parties' best interests: a suboptimal outcome that lowers welfare overall. The deviation from the principal's interest by the agent is called agency costs (Lucian &Jese, 2004).

Agency theory shows the relationships between owners of firms (principals) and managers (agents) as maintained by contracts (Jensen &Meckling, 1976). As the separation between

ownership and control diverges due to corporate growth, contracts (for example, Compensation schemes) have to be introduced to ensure the alignment of owner' and manager' economic interests. As a result, operational performance will be a function of the effectiveness of contractual mechanisms in attracting, retaining and controlling managerial talent in ways that maximize owners' wealth.

Agency theory has been used by various researches in determining the profitability of the firm, where a separation of ownership and control exist. Agency control mechanisms are put in place to align the goals of managers (agents) with those of owners (principals). Agency costs represent the costs of all activities and operating systems designed to align the interests and actions of managers with the interests of owners. The efficiency of firm assets, the manner at which the firm finances its activity either with debt or equity, the correct channeling of the cash from sales of pharmaceutical products, the management of the companies policy as it relates equitable reward and compensation of employees by employersand the ability of the pharmaceutical firms to maintain adequate liquidity, leverage and tangible assets within the firm to meet up with its daily activities as they arise in a business has the potential to both increase or decrease profitability due to agency costs. More so, the managers of the firms has a lot of responsibility in ensuring that other determinants of profitability such as, age and size of the firm are channeled towards maximizing the profitability level of the firm.

2.6.2 Resource Based Theory

The resourced based theory was propounded by Warnerfelt in the year 1984. This theory addresses performance differences between firms using asymmetries in knowledge. At the corporate strategy

level, theoretical interest in economies of scope and transaction costs focus on the role of corporate resources in determining the industrial and geographical boundaries of the firms‟ activities. At the business strategy level, explorations of the relationships between resources, competition and profitability include the analysis of competitive imitation, and the role of imperfect information in creating profitability differences between competing firms (Chen, 1996).

A firm's ability to earn a rate of profit in excess of its cost of capital depends upon the attractiveness of the industry in which it is located and its establishment of competitive advantage over rivals. Industrial organization economics emphasizes industry attractiveness as the primary basis for superior profitability, the implication being that strategic management is concerned primarily with seeking favorable industry environments, locating attractive segments and strategic groups within industries and moderating competitive pressures by influencing industry structure and competitors behavior. Thus, a resource based theory of the firm entails a knowledge based perspective.

A subsequent distinction made by Amit and Schoemaker (1993) is that encompassing construct previously called „resources‟ can be divided into resources and capabilities. In this respect, resources are tradable and non-specific to the firm and are used to engage the resources with the firm (Makadok, 2001). This distinction has been widely adopted through the resource based view literatures (Cornner&Prahalad, 1996). Makdok (2001) emphasis the distinction between capabilities and resources by defining capabilities as a special type of resource, specifically an organizationally embedded non-transferable firm-specific resources whose purpose is to improve the productivity of the other resources possessed by the firm. Resources according to Cornner&Prahalad, (1996) are stocks of available factors that are owned or controlled by the

organization and capabilities are organizational capacity to deploy resources. The determinants of profitability which include; leverage, liquidity, and tangible assets are all resources that can be used to enhance the profitability of the firm. The judicious use of the firm's resources will also go a long way in determining the survival (age) and size of the firm.

Of the theories discussed, the resource based theory has been found appropriate to anchor this study.

The resource based theory posits that performance is a function of resources which may be tangible or intangible. In other words, pharmaceutical firms are resource-based firms which make use of both tangible and intangible resources to achieve their organizational objectives.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This study examined the effect of firm specific characteristics on the profitability of listed pharmaceutical firms in Nigeria. Therefore, this section set out the steps and procedures used in analyzing the factors that impacton the profitability of listed pharmaceutical firms in Nigeria. In line with the objectives, the section focused on research design, method of data collection, population and sampling, techniques of data analysis to be employed in the research and measurement of variables.

3.2 Research Design

This research adopted the ex-post facto research design. Kerlinger (1970) defines ex-post facto research as that in which the independent variable or variables have already occurred and the data used cannot be manipulated. While Onwumere (2005) posits that the ex-post facto research design establishes a causal link between the dependent and independent variables. The design is perfect for the study based on the fact that it examined the effect of firm specific determinants on the profitability of listed pharmaceutical firms in Nigeria for the period of 2010-2016, which is a cause-effect study.

3.3 Target Population and Sample of the Study

The population of the study consists of all seven (7) pharmaceutical companies listed on the Nigeria Stock Exchange as at 16st August 2016. The use of listed pharmaceutical firms can be justified based on availability and reliability of data. This study focused on the investigation of main factors that drive the profitability of listed pharmaceutical firms in Nigeria. The entire

population of seven (7) listed pharmaceutical firms were be selected as the sample size of the study. The population and sample of the study are show in table 3.1 and 3.2 respectively:

Table 3.1: Listed Pharmaceutical Companies (Population)

S/NO	COMPANY NAME
1	Evans Medical Plc (EVANSMED)
2	FidsonPealthcare Plc (fidson)
3	Glaxo Smithkline Consumer Nig. Plc. (GLAXOSMITH)
4	May & Baker Nigeria Plc. (MAYBAKER)
5	Neimeth International Pharmaceuticals Plc (NEIMETH)
6	Nigeria-German Chemicals Plc. (NIG-GERMAN)
7	Pharma-Deko Plc. (PHARMDEKO)

Source: Nigerian Stock Exchange (NSE)(2016)

Table 3.2: Sample of the Study

S/NO	COMPANY NAME	YEAR LISTED ON NSE
1	Evans Medical Plc. (EVANSMED)	1979
2	FidsonPealthcare Plc (FIDSON)	1995
3	Glaxo Smithkline Consumer Nig. Plc. (GLAXOSMITH)	1968
4	May & Baker Nigeria Plc. (MAYBAKER)	1994
5	Neimeth International Pharmaceuticals Plc (NEIMETH)	1979
6	Nigeria-German Chemicals Plc. (NIG-GERMAN)	1979
7	Pharma-Deko Plc. (PHARMDEKO)	1980

Source: Nigerian Stock Exchange (NSE) (2016)

3.4 Source of Data Collection

This study used secondary data. The secondary data were extracted from the Annual report, annual audited financial statements and publications, and Nigerian Stock Exchange Fact book of sampled pharmaceutical companies for the period under study. From the financial statements, the researcher collected information on level of current assets, current liabilities, liquid assets, total asset, total equity, Earnings before Interest and Tax (EBIT), shareholder's fund, Total Long Term Debt and short term liabilities.

3.5 Method of Data Analysis

The tool of analysis used in this study is ordinary least square(OLS) multiple regression for checking the impact of firm level characteristics on the profitability of the firms understudy. OLS is used for estimating the unknown parameters. The study employed panel regression technique to ascertain the degree of impact among variables. The panel regression was used because the data involved in the study is on yearly bases from the sampled Pharmaceutical firms where different value were obtained for each year under the scope of the study. The panel regression and all other descriptive analysis and diagnostic as well as robustness tests was conducted using the Stata 10. In the same vein, the formulated hypotheses were tested through the independent t-test technique.

3.6 Choice of Explanatory Variables and their Measurement

The choice of explanatory variables were based on their theoretical and empirical relationship with the dependent variable. Generally speaking, the chosen explanatory variables are expected to partly explain the variation of the dependent variable. In this study, firm specific variables affecting the performance of listed pharmaceutical firms were accounted. These explanatory variables and their measurement are as follows:

i. Return on Asset (ROA): is a measure of earning generated from invested capital or total assets. This ratio is obtained when net income is divided by the total assets. Khatib and Yasin (2015)

ii. Age of company (AG): Age is represented by the logarithm of the number of years since the firm has entered the business Durand and Coeurderoy (2001).

iii. Size of company (SZ): Performance is likely to increase in size, because larger firms have better risk diversification, more economic scale advantage, and overall better cost

efficiency. In this study, total asset is used as a proxy for Company Size. Company Size = Natural log of total assets. Boadi, E. K., Antwi S. &Lartey V. C. (2013)

iv. Leverage (LV): It is a financial ratio that indicates the percentage of a firm's assets that are financed with debt. The Leverage Ratio is measured as: Leverage Ratio= Total Liabilities/Total Assets.Boadi, E. K., Antwi S. &Lartey V. C. (2013).

v. The tangibility of Assets (TA): Following Titman and Wessels (1988), Rajan&Zingales (1995), Pandey (2002) Drobetz&Fix (2003) the ratio of fixed assets over total asset as a measure of tangibility was: TA = Fixed Assets / Total Assets.Boadi, E. K., Antwi S. &Lartey V. C. (2013)

vi. Liquidity (LQ): The Liquidity Ratio measures the firm's ability to use its near cash or "quick" assets to retire its liabilities. Liquidity Ratio = Current Assets / Current Liabilities.Boadi, E. K., Antwi S. &Lartey V. C. (2013)

3.7 Table 3.3: Measurement of Variables and Model Specification

S/N	Variable Standard Name	Variable Measurement	Variable Name inRegression
1	Return on Asset (Dependent Variable)	Earnings Before Tax (EBT)/ Total Assets	ROA
2	Liquidity (Independent Variable)	Liquid Assets/ Short Term Liabilities	LIQ
3	Firm Age (Independent Variable)	Log of number of years sincelisting	FAG
4	Leverage (Independent Variable)	Total Long Term Debt/ Shareholder's Funds	LEV
5	Firm Size (Independent Variable)	Logarithm of total assets	FSZ
6	Asset Tangibility(Independent Variable)	Fixed Assets/ Total Assets	AST

Source: Researcher 2016

A regression model adopted in this study is as follows:

$ROAit = \alpha + \beta_1 FAGit + \beta_2 FSZit + \beta_3 LEVit + \beta_4 LIQit + \beta_5 ASTit + \varepsilon it$

Where:

ROAit = Return on assets of firm i at time t

AGEit = Age of firm i at time t

FRMSIZit = Size of firm i at time t

LEVit = Leverage of firm i at time t

LIQit = Liquidity level of firm i at time t

ASTit = Asset Tangibility of firm i at time t

α = Constant term

β = Coefficients of the explanatory variables

ε = composite error term

i = individual firm

t = Annual Periods of Observations of the Variables

3.8 Robustness Test

For the purpose of reporting the robustness of the results, the study consideredmulticollinearity where Tolerance and Variance Inflation Factor (VIF) result was used to ascertain the level of interrelationship among variables. Normality of the data was checked through Skewness and Kurtosis while heteroskedacitywas checked through BreuschLangrangian Multiplier Test. The result of the test was presented in the next chapter.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the results from the analysis of data and its interpretation. The chapter was divided into four sections. The first section deals with the preliminary analysis of the sample using descriptive statistics. The second section presents correlation analysis between the explained and explanatory variables. This was followed by discussion of the various robustness tests conducted in order to improve the validity of the results and testing the hypotheses of the study as well as discussion of findings. The last section ends with a policy implications from the findings.

4.2 Descriptive statistics

The summary statistics of the explained and the explanatory variables are presented in Table 4.1 where minimum, maximum, mean, standard deviation, kurtosis and skewness of the data for the variables in the study are described.

Table 4.1 Summary of Descriptive Statistics

	Min	Max	Mean	Std. Dev	Kurtosis	Skewness	N
ROA	0.019	0.34	0.191	0.083	3.951	0.335	49
LIQ	-1.41	1.82	0.583	0.819	0.346	0.976	49
TANG	0.01	0.34	0.15	0.11	10.76	0.17	49
LEV	0.35	1.5	0.5	0.02	5.05	0.73	49
FZ	6.64	8.5	7.547	0.534	2.508	0.137	49
AGE	18	47	31.86	8.88	2.147	0.299	49

Source: Stata Output (2017)

Note: Where ROA mean Return on Asset, LIQ mean Liquidity, TANG mean Tangibility of Asset, LEV mean Leverage, FZ mean Firm Size and AGE mean Age of the Firm.

The table 4.1 shows the detail account of the descriptive statistics for the explained and explanatory variables respectively.Table 4.1 showed that there are 49 observations for 7 listed Pharmaceutical firms over a period of 7 years. It further showed that there is one explained variable which is Return on Asset (ROA) and five explanatory variables which are Liquidity, Tangibility, Leverage, Size and Age.

The mean values of all the variables as shown in the table ranges from minimum of -1.14 for liquidity to a maximum of 47 for Age. The average profitability as proxiedby ROA for listed Pharmaceutical firms during the study period is about 0.191 with standard deviation of 0.083. This implies that there exists a significant variation among the values of profitability across the listed Pharmaceutical firms in Nigeria during the period. In respect of liquidity of the firm, its average value shows 0.583 with a standard deviation of 0.082. This implies that there is high variation among the values of liquidity in the sampled Pharmaceutical firms in Nigeria due to its standard deviation.

The mean value of leverage is 0.5with a standard deviation of 0.02. This shows that there is moderate variation of leverage across the sample of listed Pharmaceutical firms in Nigeria. The average value of firm size is 7.547 with a standard deviation of 0.534. Therefore, there exists a high variation among the value of firm size across the sample Pharmaceutical firms included in this study. The analysis of tangibility shows a mean value of 0.15 with the value of standard deviation of 0.11. This implies that tangibility through the analysis of its standard deviation revealed that there is moderate variation of tangibility among Pharmaceutical firms for the period. Finally, the mean value of age is 31.857 with standard deviation of 8.88. This implies that there were large differences among the values of age across the sample of Pharmaceutical firms for the study.

Similarly, table 4.1 gave insights about the skewness which describes the symmetrical nature of the sampled data applied for the study. Specifically, it disclosed that Return on asset has skewness value of 0.335, liquidity with value of 0.976, tangibility has value of 0.17 while size has approximately value of 0.137 and age with skewness value of 0.299.

For the kurtosis, the table revealed that the kurtosis value of 8.196 for tangibility demonstrated a high peak with eight hold which means that the distribution is not peaked at the mean. On the other hand, the kurtosis value of 3.951 for return on asset is less than the bench mark of 8. The kurtosis value of liquidity is 3.46 which is also less than the bench mark, while leverage has a kurtosis value of 4.938 which is also less than the 8 which is the peak. Also, size and age have kurtosis value of 2.508 and 2.148 respectively.

Overall, the numerical values of the skewness and kurtosis analysed above provided evidence that the data gathered for the study is less noisy and that on average, it is symmetrical and normally distributed.

4.3 Correlation Matrix

The correlation coefficient represents the linear association or relationship between two variables (explained and explanatory) and also between the explanatory variables themselves. The correlation matrix derived from the Spearman correlation which shows in the table below correlation values displaying the Spearman correlation coefficient between all pairs of variables.

Table 4.2 shows the correlation between the dependent variable which is Return on assets (ROA) and independent variables which are liquidity of the firms (LIQ), the leverage (LEV), firm size (FSZ), tangibility (TANG) and age (AGE).

Table 4.2: Correlation Matrix Table

	ROA	LIQ	TANG	LEV	FZ	AGE
ROA	1.0000					
LIQ	0.431	1.0000				
TANG	0.374	-0.026	1.0000			
LEV	0.149	-0.281	0.145	1.0000		
FZ	0.112	0.396	-0.194	-0.354	1.0000	
AGE	0.055	0.032	-0.111	0.094	-0.194	1.0000

Source: Stata Output (2017)

Table 4.2 shows the coefficient of correlations between liquidity(measured as current asset divided by current liability) and profitability of listed Pharmaceutical firms is 0.431. This implies that liquidity is positively related to profitability up to the tune of 43.1%. The result therefore revealed that the more liquid the firms are, the more their profitability for the period under study.The table also shows that profitability (ROA) is 37.4% correlated with tangibility. This implies that an increase in tangibility leads to increase in the profitability of Pharmaceutical firm in Nigeria.

The analysis of leverage which is measured by ratio of total assets to total liability revealed a positive relationship with return on asset of 0.149, which explains about 14.9% of their correlation. This result is an indication that firms with high leverage will report higher ROA. In other words, as leverage increased, profitability of the Pharmaceutical firms increased.

Analysis of firm size shows that the variable is positively correlated with profitability of listed Pharmaceutical firms in Nigeria to the tune of 11.2%. This implies that the larger the firm, the higher the profitability. Lastly, age is 5.5% correlated positively with the profitability of

Pharmaceuticalfirm in Nigeria which reveals that an increase in age will as a matter of fact increase the profitability of Pharmaceuticalfirms. Therefore, liquidity, leverage, tangibility, age and firm size arepositive correlated with the dependent variable (ROA).

Observing the pattern of the correlation between the explained and explanatory variables, it is however deduced that only one variable correlate perfectly while the remaining three are not highly correlated. On the other hand, the relationships between most of the explanatory variables are less minimal and could be neglected as there is no problem of singularity of data (that is, there is no interdependency among the independent variables).

4.4 Robustness test

The robustness test comprises of different tests that meant to check the fitness of the data and model. This comprises of multicolinearity test and heteroskedasticity test.

4.4.1: Multicolinearity Test

Table 4.3 below shows the result of multicolinearity test as follows:

Table 4.3: Multi-collinearity Test

Variables	VIF	1/VIF
LIQ	1.22	0.817
TANG	1.05	0.951
LEV	1.21	0.825
SIZ	1.35	0.739
AGE	1.04	0.963
MEAN	1.18	

Source: Stata Output (2017)

The presence of correlation between independent variables of the study can cause statistical and computation difficulties and by extension can adversely affect the model fitness of multiple regression which is adopted in this study.

Shehu and Buba (2009), however, asserted that the Variance Inflation Factor (VIF) and tolerance values (1/VIF) are two most advance measure for detecting the presence of multicollinearity problem between exploratory variables. Owing to this, a collinearity diagnostic test comprising of tolerance value and VIFs were conducted to check if correlation exists between the exploratory variables of the study.

The results reported in table 4.3, obtain from the test using Stata 10.0 as a statistical package revealed that the VIF with value of 1.22 for liquidity, 1.21 for leverage, 1.35 for firm size, 1.04 for age and 1.05 for tangibility were consistently smaller than the value of 10 as suggested Cassey and Anderson (1999). The table 4.3also indicated the absence of the perfect multi-collinearity among the explanatory variables as shown by the mean VIF of 1.18. The mean value of VIF of 1.18 implies that in average, there is no correlation among variables.

Similarly, the tolerance limit of 0.817 for liquidity, 0.825 for leverage, 0.739 for firm size, 0.963 for age and 0.951 for tangibility were also found to be smaller than the maximum of 1. This result gives us confidence to proceed and present the regression result which relates to the determinants of profitability of sampled Pharmaceutical firms over the period of 7 years.

4.4.2 Heteroskedasticity Test

Table 4.4 shows the result of heteroskedasticity test conducted for the study and it is as follows:

Table 4.4: Heteroskedasticity Results

	Statistics	P-values
$Chi^2(1)$	1.02	0.312

Source: STATA OUTPUT 10.0

From table 4.4, the result of heteroskedasticity returns a Chi^2 value of 1.02 with p-value of 0.312. This shows the absence of heteroskedasticity. In other word, the assumption of homoskedacity of

the dataset in respect of OLS has not been violated. Thus, the result generated from the normal regression can be analysed.

4.5 Analysis of Data

Table 4.5 contains the summary of regression result on the effect of liquidity, leverage, size, age and tangibility on theprofitability of sampled Pharmaceutical firms in Nigeria.

Table 4.5.1 Summary of Regression Result

ROA	H_o	β Coefficient	T	P-value	Decision
LIQ	1	0.049	3.65	0.001	Reject
LEV	2	0.061	1.99	0.053	Reject
FSZ	3	0.013	0.60	0.551	Fail to reject
AGE	4	0.001	0.07	0.943	Fail to reject
TANG	5	0.123	2.99	0.005	Reject
_cons		-0.055	-0.32	0.751	
F-stat		5.55			
P-value f-stat				0.0005	
R-squared		0.392			
Adj-r-squared		0.321			

Source: Stata Output (2017)

Table 4.5.1 shows the summary of the output for determinants and profitability. The functional relationship is estimated as follows:

$ROA_{it} = -0.055 + 0.049LIQ_{it} + 0.061LEV_{it} + 0.013FSZ_{it} + 0.001AGE_{it} + 0.123TANG_{it} + \varepsilon it$

The R-squared value of 0.392 which is a coefficient of determination reveals that profitability predictors have a collective impact of 39.2% on returns on asset while the f-stat value of 5.55 reveals that the model used to measure profitability is properly fit for analysis and well combined as revealed by the p-value of 0.0005 which is statistically significant at 1% significance level.

The adjusted R-squared value revealed that on adjustment, there is still a traceable collective effect of liquidity, leverage, size, age and tangibility on profitability of sample Pharmaceutical firms up to 32.1%.

4.5.1 Liquidity and Profitability

Hypothesis 1

H01: Liquidity has no significant effect on the profitability of listed Pharmaceutical firms in Nigeria.

Liquidity ratio as measured by the ratio of current assets to current liabilities showed a t-value of 3.65 with a beta value of 0.049 and a p-value of 0.001, which is said to be significant at 1% level of significance. This implies that liquidity ratio is positively influencing the profitability of listed Pharmaceutical firms in Nigeria within the study period. This means that the higher the liquidity position of the firm, the more the reported profitability as proxied by ROA. This implies that for every one point increase in liquidity ratio, the profitability of sampled Pharmaceutical firms increase by 3.65 point. From the result above, it can be deduced that liquidity is statistically significant in influencing profitability of listed Pharmaceutical firms in Nigeria. This provided evidence for rejecting null hypothesis one of the study. Thus, **H01** is rejected.The result is congruent with the findings ofAlmajali and Yahya (2012), Lartey, Antwi and Boadi (2013), Ben-Caleb *et-al* (2013). They all suggested that liquidity is positively related to profitability and that companies with strong liquidity ratios tend to face lower risk and better performance. The study contradicts the findings of Agha (2014),Afeef (2011). Kaur and Silky (2013).

4.5.2 Leverage and Profitability

Hypothesis 2

H02; Leverage has no significant impact on the profitability of listedPharmaceutical firms in Nigeria.

The table 4.5 shows that t-value for leverage is 1.99 and coefficient of 0.061 with a p-value of 0.053 which is therefore significant at 5% level of significance. This signifies that leverage is positively and significantly influencing the profitability of sampled Pharmaceutical firms in Nigeria. This implies that the higher the level of leverage, the higher the profitability of listed consumer goods firm proxied by ROA. The positive effect of the value of leverage is consistent with our a priori expectation, implying that every one point increase in value of leverage causes profitability to increase by 1.99. It can be concluded that firms with high leverage will have positive impact on their profitability. Leverage is taken as total liabilities divided by the total assets of a firms and it is found to be positively significant at 10% level. This means that the leverage of the firm is associated with the profitability of listed Pharmaceutical firms in Nigeria. Therefore, leverage has significantly affected the profitability of listed Pharmaceutical firms in Nigeria. As a result the null hypothesis is rejected which is in harmony with the findings of Akhtar (2012), Subaii (2012), Al-Tally (2014, Javed et-al (2012) and Boadi, E. K. *et al*, (2013). Their studies affirmed that firms with higher level of financial leverage improves their profitability. But, contradict the findings of Jamel (2012), Pandey (2001), and Innocent eta-al (2014)

4.5.3 Firm size and Profitability

Hypothesis 3

H03: Firm size has no significant impact on profitability of listed Pharmaceutical firms in Nigeria.

The regression result shows the firm size of Pharmaceutical firms measured by the natural logarithm of total assets, revealed that firm size as shown in table 4.5 has a t-value of 0.60 and a coefficient value of 0.13 with a significant value of 0.551. This signifies that firm size is positive related but has no significant influence even at 10% significance level on profitability of listed Pharmaceutical firms in Nigeria, that is, the greater the size of a firm, the higher the reported ROA but this does not really affect the profitability of sampled Pharmaceutical firm for the period under study. This implies that for every one unit increase in firm size, the ROA will increase by 0.60.This provided grounds for failing to reject the null hypothesis three which states that firm size has no significant impact on the profitability of listed Pharmaceutical firms in Nigeria. The result on the effect of firm size is consistent with the studies of Niresh and Velnampy (2014), Goddard, Tavakoli and Wilson (2005). The studies revealed that the increase in the company size tend to reduce its profitability. The findings contradict that of Yavaraj and Abate (2013), Daniel and Tilahun (2012), Abate (2012), Almajali and Yahaya (2012) and Malik (2011) suggested that firm size is positively significant to profitability.

4.5.4 Firm Age and Profitability

Hypothesis 4

H04: Age has no significant effect on the profitability of listed Pharmaceutical firms in Nigeria.

The results revealed that there is no significant relationship between firm age and the profitability of listed Pharmaceutical firms in Nigeria. As shown in Table 4.5, the coefficient of

age is 0.01 with a t-statistics of 0.07 and a p-value of 0.943. This signifies that the age does not significantly influence the profitability of listed Pharmaceutical firms in Nigeria. This implies that whether there is an increase or decrease in age, the profitability may not necessarily change either by increasing or decreasing ROA. Thus, it can be concluded that the increase or decline of age of the sampled Pharmaceutical firms will not affect their profitability for the period under study.This provides an evidence of failing to reject null hypothesis four of the study which states that age has no significant effect on the profitability of listed Pharmaceutical firms in Nigeria. The finding is in line with Loderer and Waelchli (2010),Yavaraj and Abate (2013),Abate (2012), Malik (2011), contradicts those reported by Coad, Segarra&Teruel, 2013), Gaur and Gupta (2011).

4.5.5 Tangibility and Profitability

Hypothesis 5

H05: Tangibility has no significant effect on the profitability of listed Pharmaceutical firms in Nigeria.

The tangibility of asset measured by the ratio of fixed asset to total asset of Pharmaceutical firms shows a t-value of 2.99 and a coefficient of 0.123 with p-value of 0.005 which is statistically significant at 1% level of significance. This shows that tangibility has a positive coefficient and significant in explaining and predicting the profitability of listed Pharmaceutical firms in Nigeria within the study period. Therefore, it can be concluded that asset tangibility still explains the variation in profitability ofPharmaceuticalfirm positively and also significantly affected the performance by 2.99%.This provided enough evidence of rejecting null hypothesis five of the study which states that asset tangibility has no significant effect on the profitability of listed consumer goods firms in Nigeria. The findings is in line with the findings of Akintoye (2008),

Bhutta and Hassan (2013) whose opined that firms with larger tangibility will have smaller cost of financial distress and make debt choice more likely. The study contradicts the findings of Rajan and Zunyales (1995) and Myers (2001).

4.6 Discussion of Findings

Findings of this study have several implications for investors and Pharmaceutical firms. Viewing evidence about what drives Pharmaceutical firm's profitability will help business understand which factors are critical to track and analyse in order to attain operational success. It is paramount to note that, if Pharmaceutical firms know the factors that can boost performance, it will culminate into creating increased competition in the market place. Investors can use the knowledge derived from the findings of this study to take care of their investment. The outcomes of this study contribute towards a better understanding of the firm specific that affect profitability of listed Pharmaceutical firms in Nigeria.

The findings revealed that liquidity is positively and significantly influencing the profitability of listed Pharmaceutical firms in Nigeria. The implication of this is that higher liquidity will allow a firm to cope with its obligation during the period of low earning. This can also be advantageous to the management as they can make use of their liquid assets to finance their activities and investments when external finances are not available or too costly.

The findings also revealed that leverage is positively and significantly related with the profitability of the listed Pharmaceutical firms in Nigeria. This predicts that the performances of highly levered Pharmaceutical firms in Nigeria are going to be more profitable and implies debt financing is better than equity financing. The leverage ratio level of the Pharmaceutical firms affects their profitability positively. From the result, it implies that highly profitable

Pharmaceutical firms most likely rely more on debt capital than internally generated funds and equity capital as the source of financing.

Finally, the analysis revealed that tangibility is positively and significantly influencing the profitability of listed Pharmaceutical firms in Nigeria. This implies that the larger the asset tangibility of Pharmaceutical firms, the higher the profitability performance and also affect the performance for the period under study. This result has implication on the firm, though,firm's use of tangible assets as security reduces the risk of the moral because this is a positive indicator to the creditors who can request the liquidation of these assets in the case of credit default but at a cost that have effect on the have effect on the borrowing decisions of a firm since they are less subject to informational asymmetries and they have a greater value. In the same vein, the necessary asset that need for production in Pharmaceutical firms are being inspected by the drug administration agents which when certify has a long way in gearing them to high productive capacity which then affect the performance of the firm and lure more investors to the firm.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Major Findings

This study investigates firm specifics factors affecting the profitability of listedPharmaceutical firms in Nigeria for the period 2010-2016. The study used secondary data obtained from the annual reports and accounts of seven of thePharmaceutical firms. Multiple regression was used with the aim of explaining and predicting empirically the relationship between firm specific and profitability of the Pharmaceutical firms. The model used for the purpose of the study estimates the association and effect of five explanatory variables on one explained variable through the use of ordinary least square techniques.

Panel data techniques were utilized to investigate the effect of internal factors on profitability of listedPharmaceutical firms in Nigeria. Kurtosis and skewness was used to affirm the normality of the data which shown that the data is normal and sound. Also, the result of multi-collinearity test of mean 1.08 shown the absence of collinearity among the independent variables. Likewise, the result ofheteroskedasticity test through Breusch-Pagan/ Cook-Weisberg test shownabsence of collective panel effect among independent variable. The result of normal regression model reveal that liquidity, leverage and tangibility are significant determinants of firm's profitability while age and size are insignificant.

The study found out that:

i. Liquidity, leverage and tangibility have significant positive relationships with profitability.
ii. Age and size are not significant.

Thus, firm specific characteristics used in this study proved to be determinants of profitability of listed consumer goods firms in Nigeria.

5.2 Conclusion

After careful review of the results and discussion, as well as relevant literatures, the study concludes that:

There is a positive and significant effect of tangibility on profitability of Pharmaceutical firms proxied by ROA. This means that tangibility is positively and significantly in explaining the profitability of listed Pharmaceutical firms in Nigeria within the period under review. In the same vein, it can be concluded that asset tangibility still explains the variation in profitability of Pharmaceutical firms positively.

There is positive and insignificant effect of firm size on the profitability of listed Pharmaceutical firms. This implies that the firm size but has no significant effect on the profitability for the period under study. Thus, it can be concluded that the increase or decline of age does not affect the profitability of listed Pharmaceutical firms.

Age has positive and insignificant effect on the profitability of listed Pharmaceutical firms in Nigeria. This implies that the age do not significantly influence the profitability of listed Pharmaceutical firms in Nigeria. Thus, it can be concluded that the increase or decline of age in the economy does not produce any outcome to the consumer goods firms.

There is a positive and significant effect of liquidity on profitability of listedPharmaceutical firms in Nigeria. This implies that the more liquid the firms are, the better is their profitability.

Finally, there is positive and significant effect of leverage on profitability of Pharmaceutical firms in Nigeria. This implies that the higher the level of leverage, the higher the profitability of listed Pharmaceutical firms.

5.3 Recommendations

In the light of the analysis and findings, the following suggestions are proffered

i. Pharmaceutical firms in Nigeria should maintain their liquidity profile and standard while diversifying their assets in a way to remain profitable and sustainable.

ii. The management of Pharmaceutical firms should maintain their decisions in respect to leverage. The financing decision is more of debt than equity which leads to high leverage and high profitability Thus, Pharmaceutical firms should rely more on maintain debt capital than internally generated funds and equity capital as the source of financing.

iii. Pharmaceutical firms in Nigeria should maintain their decision on their asset tangibility. Due to the fact that asset tangibility serves as collateral and improve the credit worthiness of the firms.

5.4 Contribution to Knowledge

This study has however contributed the following to the study of determinants of profitability of firms;

i. Instead of considering just a two or three determinants of profitability (as prior studies in the literature have done), this study considered four different micro-economic determinants with the inclusion of asset tangibility. This will help researchers in this area of interest to draw inference.

ii. Since to the best of the researcher's knowledge, no study in Nigeria has extensively covered determinants of profitability of listed pharmaceutical firms in Nigeria, this study will serve as a data base for future research.

5.5 Suggestions for further Research

This study has considered only five explanatory variables relating to profitability of Pharmaceutical firms in Nigeria. Future studies may consider more internal variables, both industry specific and macro-economic variables such as inflation, unemployment, Gross Domestic Product (GDP), Exchange Rate, among others. Again, it is suggested that other measurement of profitability such as return on equity, return on investment and return on capital employed should be regressed on the explanatory variables used in this study to find their extent of their relationship.

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Appendix A

```
. xtset  id years
       panel variable:  id (strongly balanced)
        time variable:  years, 2010 to 2016
                delta:  1 unit

. sum roa liq lev fsz age tan, detail
```

ROA

Percentiles		Smallest		
1%	.01	.01		
5%	.018	.0134		
10%	.024	.018	Obs	49
25%	.17	.0191	Sum of Wgt.	49
50%	.198		Mean	.1907551
		Largest	Std. Dev.	.0834633
75%	.232	.29		
90%	.27	.32	Variance	.0069661
95%	.32	.34	Skewness	-.3345389
99%	.423	.423	Kurtosis	3.951

liq

Percentiles		Smallest		
1%	-1.44	-1.44		
5%	-1.21	-1.33		
10%	-1.06	-1.21	Obs	49
25%	.12	-1.14	Sum of Wgt.	49
50%	.71		Mean	.5834694
		Largest	Std. Dev.	.8196507
75%	1.09	1.55		
90%	1.46	1.56	Variance	.6718273
95%	1.56	1.82	Skewness	-.9763767
99%	1.89	1.89	Kurtosis	3.462663

lev

Percentiles		Smallest		
1%	.11	.11		
5%	.31	.24		
10%	.39	.31	Obs	49
25%	.56	.35	Sum of Wgt.	49
50%	.68		Mean	.7365306
		Largest	Std. Dev.	.3569638
75%	.75	1.5		
90%	1.5	1.57	Variance	.1274231
95%	1.57	1.68	Skewness	1.463539
99%	1.82	1.82	Kurtosis	4.938256

fsz

Percentiles		Smallest		
1%	6.45	6.45		
5%	6.58	6.58		
10%	6.69	6.58	Obs	49
25%	7.34	6.64	Sum of Wgt.	49
50%	7.53		Mean	7.547347
		Largest	Std. Dev.	.5337984
75%	7.86	8.45		
90%	8.37	8.47	Variance	.2849407
95%	8.47	8.5	Skewness	-.1367569
99%	8.54	8.54	Kurtosis	2.50794

AGE

Percentiles		Smallest		
1%	16	16		
5%	17	17		
10%	18	17	Obs	49
25%	22	18	Sum of Wgt.	49
50%	34		Mean	31.85714
		Largest	Std. Dev.	8.88116
75%	37	45		
90%	44	46	Variance	78.875
95%	46	47	Skewness	-.2985134
99%	48	48	Kurtosis	2.147617

TAN

Percentiles		Smallest		
1%	.0058	.0058		
5%	.26	.21		
10%	.35	.26	Obs	49
25%	.46	.27	Sum of Wgt.	49
50%	.56		Mean	.5786898
		Largest	Std. Dev.	.2468097
75%	.63	.85		
90%	.77	.98	Variance	.060915
95%	.98	1.44	Skewness	1.606093
99%	1.49	1.49	Kurtosis	8.196296

```
. pwcorr roa liq lev fsz age age tan, star (0.05) sig
```

	roa	liq	lev	fsz	age	age	tan
roa	1.0000						
liq	0.4314*	1.0000					
	0.0020						
lev	0.1494	-0.2807	1.0000				
	0.3054	0.0508					
fsz	0.1117	0.3959*	-0.3543*	1.0000			
	0.4449	0.0049	0.0125				
age	0.0549	0.0322	0.0939	0.1235	1.0000		
	0.7081	0.8264	0.5211	0.3979			
age	0.0549	0.0322	0.0939	0.1235	1.0000*	1.0000	
	0.7081	0.8264	0.5211	0.3979	0.0000		
tan	0.3736*	-0.0260	0.1449	-0.1939	-0.0112	-0.0112	1.0000
	0.0082	0.8590	0.3207	0.1819	0.9394	0.9394	

```
. reg roa liq lev fsz age age tan
```

Source	SS	df	MS		
Model	.131168963	5	.026233793	Number of obs	= 49
Residual	.20320472	43	.004725691	F(5, 43)	= 5.55
				Prob > F	= 0.0005
Total	.334373683	48	.006966118	R-squared	= 0.3923
				Adj R-squared	= 0.3216
				Root MSE	= .06874

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
liq	.0489477	.0133964	3.65	0.001	.0219314	.0759641
lev	.0608329	.0305937	1.99	0.053	-.000865	.1225309
fsz	.0130087	.021627	0.60	0.551	-.0306063	.0566236
age	.0000825	.0011385	0.07	0.943	-.0022134	.0023784
age	(dropped)					
tan	.1233283	.0412262	2.99	0.005	.0401879	.2064688
_cons	-.0547882	.1717481	-0.32	0.751	-.4011512	.2915749

```
. vif
```

Variable	VIF	1/VIF
fsz	1.35	0.738716
liq	1.22	0.816568
lev	1.21	0.825493
tan	1.05	0.950942
age	1.04	0.963053
Mean VIF	1.18	

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of roa

         chi2(1)      =     1.02
         Prob > chi2  =   0.3120
```

Appendix B (Extracted data)

years	Id	age	size	lev	tang	liqu	roa
2010	1	32	15.273	0.047	0.085	0.99945	0.138
2011	1	33	15.753	0.062	0.171	0.998983	0.043
2012	1	34	15.804	0.043	0.29	1.00832	0.039
2013	1	35	13.827	0.043	0.039	1.27303	0.121
2014	1	36	12.846	0.066	-0.081	1.1003	0.134
2015	1	37	15.89	0.063	0.029	0.671886	0.101
2016	1	38	15.941	0.021	0.239	0.682914	0.041
2010	2	16	12.493	0.056	0.034	2.60903	0.039
2011	2	17	13.829	0.061	0.067	5.42206	0.053
2012	2	18	16.193	0.056	0.145	1.85439	0.041
2013	2	19	13.32	0.057	0.288	1.15934	0.18
2014	2	20	15.321	0.046	0.134	0.787678	0.148
2015	2	21	13.609	0.054	0.164	0.787201	0.121
2016	2	22	16.811	0.049	0.261	0.639893	0.113
2010	3	17	14.283	0.062	-0.101	1.61976	0.166
2011	3	18	15.225	0.051	0.868	14.029	0.331
2012	3	19	13.484	0.027	-0.54	4.97157	0.13
2013	3	20	15.415	0.066	0.047	2.48162	0.14
2014	3	21	15.412	0.06	0.027	6.22645	0.079
2015	3	22	14.409	0.052	0.12	1.84113	0.07
2016	3	23	15.414	0.059	0.338	5.27088	0.233
2010	4	32	14.237	0.05	0.309	1.80107	0.074
2011	4	33	14.37	0.049	0.285	4.15757	0.031
2012	4	34	12.403	0.044	0.135	5.73289	0.02
2013	4	35	14.494	0.06	0.082	7.65754	0.03
2014	4	36	12.839	0.063	0.101	1.98485	0.043
2015	4	37	14.604	0.061	0.106	2.07841	0.024
2016	4	38	13.655	0.07	0.218	1.99651	0.025
2010	5	32	12.383	0.06	0.228	1.47381	0.025
2011	5	33	14.401	0.058	0.204	1.48944	0.019
2012	5	34	13.671	0.002	0.173	0.742883	0.017
2013	5	35	12.182	0.044	0.151	0.814221	0.021
2014	5	36	14.948	0.038	0.274	0.620912	0.006
2015	5	37	13.995	0.055	0.153	0.431568	0.021
2016	5	38	16.222	0.077	0.154	0.5277	0.056
2010	6	31	13.477	0.072	0.177	0.503914	0.045
2011	6	32	14.533	0.061	0.221	0.569618	0.052
2012	6	33	13.477	0.075	0.296	0.509943	0.046
2013	6	34	12.715	0.085	0.319	0.337952	0.038
2014	6	35	14.839	0.098	0.264	0.408185	0.03

2015	6	36	14.731	0.035	0.036	0.304698	0.108
2016	6	37	14.859	0.036	0.026	0.46801	0.15
2010	7	42	13.466	0.036	0.214	1.32127	0.1
2011	7	43	13.69	0.065	0.124	1.41412	0.022
2012	7	44	16.473	0.051	0.005	1.43354	0.171
2013	7	45	16.703	0.055	0.071	1.40772	0.077
2014	7	46	16.91	0.053	0.028	1.36245	0.001
2015	7	47	14.082	0.056	0.153	11.9611	0.0001
2016	7	48	15.147	0.001	0.039	1.10231	0.01