

**DECISION-USEFULNESS OF FINANCIAL  
STATEMENTS AND NON-FINANCIAL  
INFORMATION OF QUOTED FIRMS IN  
NIGERIA**

**BY**

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Finance**

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## CERTIFICATION

This is to certify that this thesis has been read and approved as meeting the requirements of the Department of Accounting, University of Ilorin, Ilorin, Nigeria for the award of Ph.D. degree.

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## **DEDICATION**

This research work is dedicated to God, the Father of our Lord Jesus Christ.

## **DECLARATION**

I, ABOGUN Segun, hereby declare that this thesis entitled “Decision Usefulness of Financial Statements of Quoted Firms in Nigeria” is a record of my research work. It has neither been presented nor accepted in any previous application for a higher degree. All sources of information have been specifically acknowledged.

In addition, the research work has been ethically approved by the University Ethical Review Committee.

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## ABSTRACT

Investors need information that enables them evaluate share prices and make decision on whether to buy, hold, or sell investments. However, lack of relevant and reliable information is one of the many problems facing investors in making investment decisions in developing economies. Therefore, this study examined the usefulness of financial statements and non-financial information of quoted firms in Nigeria from 1996 to 2015 for decision. The objectives were to: (i) examine the decision-usefulness of statement of comprehensive income; (ii) determine the decision-usefulness of statement of financial position; (iii) evaluate the decision-usefulness of statement of cash flows; (iv) investigate the decision-usefulness of non-financial information; (v) assess the impact of cap imposition on the decision-usefulness of financial statements; and (vi) evaluate the impact of accounting conservatism on the decision-usefulness of financial statements.

The study employed quantitative research design. The population of the study consists of eighty six (86) firms which shares were quoted from 1996 to 2015. A cross sectional sample of forty six (46) firms were selected using Yamane formulae over twenty (20) years. Panel data were collected from secondary sources. The data were sourced from financial statements of selected quoted firms and the Nigerian Stock Exchange Factbooks. Based on Hausman test, panel regressions were estimated using the fixed effect technique.

The findings of the study were that:

- (i) statement of comprehensive income (earnings per share  $\beta_1 = 0.5929$ ,  $p < 0.01$ ; accrual earnings  $\beta_2 = 0.0007$ ,  $p < 0.05$ ; dividend per share  $\beta_3 = 7.7516$ ,  $p < 0.01$ ; research & development  $\beta_4 = 0.0245$ ,  $p < 0.05$ ; human capital  $\beta_5 = 0.0009$ ,  $p < 0.05$ ; earnings growth  $\beta_6 = 0.3865$ ,  $p < 0.1$ ; lagged earnings  $\beta_7 = 2.8471$ ,  $p < 0.10$ ) was decision useful;
- (ii) statement of financial position (total assets  $\beta_8 = -0.00002$ ,  $p < 0.05$ ; total liabilities  $\beta_9 = 3.2000$ ,  $p < 0.10$ ; book value  $\beta_{10} = 0.9197$ ,  $p < 0.01$ ; lagged book value  $\beta_{11} = -0.1799$ ,  $p < 0.01$ ) was decision useful;
- (iii) statement of cash flows (cash flows from operations  $\beta_{12} = 0.00075$ ,  $p < 0.10$ ; lagged cash flow operation  $\beta_{13} = 0.00085$ ,  $p < 0.05$ ) was decision useful;
- (iv) non-financial information ( $\beta_{14} = 0.6248$ ,  $p > 0.05$ ) was not decision useful;
- (v) cap imposition ( $\beta_{15} = -37.210$ ,  $p < 0.05$ ) had inverse relationship with the usefulness of financial statements for decision; and
- (vi) accounting conservatism ( $\beta_{16} = -7.643$ ,  $p < 0.01$ ) had negative effect on the usefulness of financial statements for decision.

The study concluded that investment decision should be based on the strength of financial information. The study recommended that investors should fully use the information from financial statements for their investment decisions but exercise caution over the use of non-financial information.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background to the Study**

The complexity and diversity of investment decisions have made the demand for relevant information by users of financial statements information, especially investors and creditors to be on an increasing trend. The increased demand for relevant information is also necessitated by risks associated with investments, increased production (global business expansion), business change, technological advancement, innovation, competition, or deregulation (Lev & Zarowin, 1999). Historically, financial statement was intended solely to serve as a report on the stewardship of the agents to the owners of firms. This is because owners needed to protect their wealth by safeguarding it from embezzlements or miss-management. As a result, agents were required to prepare the report of their stewardship and submit to the owners.

The industrial (a change from sole proprietorship and partnership business to limited companies, private or public ownership) revolution of 18<sup>th</sup> to 19<sup>th</sup> centuries brought about a major shift in the forms of business ownership, and the nature of information required by users. As a result, the size of operation of firms increased, leading users to demand for increased disclosure of information and improved information quality.

Furthermore, due to the increased size of operation, firms required additional capital in the form of equity and loan. Through the stock market firms were able to sell shares and bonds to the general public and raise capital in turn. Therefore, additional objective of providing information for contract settlement between the firm and its creditors was introduced. This enabled providers of loan capital to monitor the

activities of the firm (invariably the management) to ensure that the covenant (contract) between them was not breached (Christensen, Nikolaev, & Wittenberg-Moerman, 2015).

Overtime, due to uncertainty characterizing business environment, and the continuous clamor by investors for relevant information, the focus of financial reporting shifted from stewardship and contract settlement to include providing information for decision making (International Accounting Standard Board [IASB] 2010; Sutton, Cordery, & Van Zijl, 2015).

However, the emphasis on providing information for decision making requires that accounting information be forward-looking and not backward-looking. Potential investors want to know the amount, timing, and uncertainty of future cash flows. They also seek to understand the economic risk of investing in a particular firm's shares. Furthermore, investors are interested in the future values of firms' assets; investment plan on research and development; investment plan on information and communication technology; and investment plan on human capital development.

On the contrary, the current accounting practice is such that information about past transactions is what is contained in the statements of financials. Therefore, as the purpose of financial statements remains providing information for decision making, then it becomes doubtful that the practice of reporting past transactions would satisfy the objective. This is because the information needed for decision making relates to the future actions of companies, and not their past actions. Past transactions may be of little importance when it comes to the decision usefulness of information.

Decision usefulness of financial statement can be interpreted to mean the ability of financial statement to provide information that aides investors' decision. According



to IASB (2010), useful information must possess the qualities of relevance and reliability. In other word, useful information must be capable of influencing actions of users. It follows that, useful financial statement should not only report past transactions but also future related actions of companies.

In summary, despite the ever-changing business environment in terms of risks, innovation, business complexity, deregulation of economy, privatization of state owned companies, inflation, change in information needed by investors, competition, change from industry-based economy to a service and knowledge-oriented economy, accounting practices remained fairly unchanged in the sense that the nature of information reported is largely the past events (American Institute of Certified Public Accountant [AICPA], 1991; Meyer, 2007 as cited in Perera & Thrikawala, 2010).

## **1.2 Statement of the Problem**

There is continuous debate over the usefulness of financial statements of firms for investment decision world-wide, particularly in developing economies. In this regard, one major problem confronted by investors is lack of adequate, accurate, reliable, and relevant information for investment decision (“Nigeria: Risk Assessment,” 2017; “Emerging Markets,” 2017). Financial statement is criticized by investors and past studies (for instance Lev & Zarowin, 1999; Barth, Landsman, Raval & Wang, 2014; “Nigeria: Risk Assessment,” 2017; Alkali, Zuru, & Kegudu, 2018) for lack of relevant information for investment decisions of shareholders. Similarly, Balachandran and Mohanram (2011) cited in Ruch and Taylor (2015) reported that the usefulness of accounting information for decision has reduced over time.

The problem identified with the financial statements is that the accounting model that produces the financial statement is backward-looking. The model is based on

reporting past financial transactions and neglecting information that affects the future expected cash flows of firms (forward looking).

Besides, the financial information in the annual report is based on the accounting rules of conservatism, and transaction-based recognition of revenue and expenses. Accounting rule of conservatism is the practice of lowering the net assets value in the books relative to its economic value by early recognition of all anticipated expenses/losses and delay in the recognition of probable revenues (Basu, 1997; Xie, 2015). The application of this rule on the preparation of accounts limits its decision usefulness in the sense that vital information that explains the fundamental values of security is concealed.

Furthermore, the emphasis on reporting financial-based information as against a fair balance with non-financial information is restrictive. Sometimes the information that better portrays firms' financial efficiency and position may be non-financial information. However, it is unclear whether or not the type of non-financial information reported by Nigerian firms is capable of influencing investment decisions.

Another key issue is the failure of accounting model to keep pace with economic change. There is a major shift from capital intensive economy to a high technology, service-oriented, science-based, and knowledge-based economy. As such, the bulk of investments made by firms in the developed economies especially, go into research and development, human capital, software development, brand name, and information and telecommunication technology amongst others. Financial reporting is expected to reflect this change by re-directing focus away from production assets to human capital assets and knowledge based-asset. The change also requires

reporting the financial effect of companies' research activities, companies' brand name, software development, and companies' innovations.

Similarly, the costs of investments on research activities, human capital, brand name, are better capitalized and reported as assets of the firm instead of writing them off in the year of incurring them. Treating such costs as revenue cost would result to a mismatch between revenue and expenses. This is because the accruing benefits from R&D activities usually extend beyond one year.

However, since there are reports in support of the usefulness of financial statements despite the associated problems mentioned above, the research remains inconclusive. Evidences supporting the claim that the financial statement has lost its relevance for investors' decision emanated mainly from studies in the developed economies such as AICPA (1994); Mlonzi, Kruger, and Nthoesane (2011); Barth, Landsman, Raval and Wang (2014). More so, in a developing economy like Nigeria, there is no evidence of significant shift from capital intensive economy to a high technology, service-oriented, science-based, and knowledge-based economy; hence, need to provide evidences from developing economies such as Nigeria.

Attempts have been made by past studies in Nigeria to fill this gap; for example, Oyerinde (2011); Baffa, Mohammed and Abdulkadri (2014); Felix and Rebecca (2015); nevertheless, there remain unanswered questions which this study attempted to fill.

In Nigeria for instance, past studies failed to account for the impact of Stock Market price regulation on the usefulness of financial statement. The cap is such that stock price of a firm for example cannot rise above or fall below a fixed limit (Nigerian Stock Exchange Rule Book, 2015) regardless of the volume of trading and the firm

performance. Prior to 1996 when the Security and Exchange Commission imposed five (5) per cent cap, the cap was 10 kobo and later 20 kobo per trading day, now the cap (price limit) is raised to 10%. The effect of ceiling on stock price movement is that the amount of information that can be reflected in security price is limited by the cap. Therefore, since share price does not freely reflect information flow, the value of accounting information may be lowered.

Similarly, due to the cap imposed on share prices and market in-perfections, previous years' information may have some influences on current year investment decision. However, past studies failed to examine the influence of previous years' information on current year investment decision.

Past works have also concentrated all attention on examining the financial information, neglecting the non-financial information. However, information needed by investors is partly non-financial. This non-financial information include operating environments (that is, political environment, economic environment, industry information), performance review, business or product diversification, new products, new discoveries, business model, corporate social responsibility etc. The study therefore examines the impact of the non-financial information of the annual report on investors' decision.

Furthermore, past works in Nigeria failed to examine the impact of accounting conservatism, R&D cost, human capital information, and investors' ratios. The cost of R&D is vital information that is capable of influencing investors' decisions because investors are more likely to be interested in the financial effect of firms' research activities. Also, bottom line figures e.g profit/loss figure and net assets figures provides less information about firms' efficiency when compared with computed ratios. On this basis, this study examined the decision usefulness of

investors' ratios. Similarly, the cash flow effects of firms' transactions are more likely to be of interest to investors since the ultimate goal of investment is the cash flow implication of such investment at the end. Therefore, the three components of cash flow statement examined in this study include cash flow from operation, cash flow from investing activities, and cash flow from financing activities.

Finally, the income statement which contains revenues and expenses information and consequently the earnings information, the statement of financial position which contains information about firms' book value of equity, total assets, and total liabilities, and the cash flow statements which contains cash flow information are key components of firms' financial statements which were examined in this study. Therefore, all the financial statements variables examined in this study were grouped into income statements, statement of financial position, and the cash flow statements. The income statement variables examined include earnings, human capital, accrual earnings, dividend, and R&D. The financial position statements' variables examined include book value of equity, capital structure, total assets, and total liabilities. The cash flow statement variables include cash flow from operation, cash flow from investing activities, and cash flow from financing activities. Other variables examined in this study were investors' ratios, accounting conservatism, cap imposition, previous years' information, and the non-financial information.

### **1.3 Research Questions**

In measuring the decision usefulness of financial statements information, the impact of financial statements' components on share prices is evaluated. Therefore, this study provides answers to the following specific research questions:

- i. To what extent is comprehensive income decision useful?

- ii. What is the extent to which financial position statement decision useful?
- iii. To what extent is the cash flows statement decision useful?
- iv. What is the extent to which investors' ratio is decision useful?
- v. To what extent is non-financial information decision useful?
- vi. How does cap imposition influence the decision usefulness of financial statements?
- vii. In what way does conservatism principle impact on the usefulness of financial statements for decision?
- viii. What is the extent to which previous years' financial information is decision useful?

#### **1.4 Objectives of the Study**

The main objective of this study is to examine the usefulness of financial statements and non-financial information of Nigerian quoted firms for investment decisions. Thus, the specific objectives are to:

- i. examine the decision usefulness of statement of comprehensive income;
- ii. assess the decision usefulness of the financial position statement;
- iii. evaluate the decision usefulness of cash flows statement;
- iv. determine the decision usefulness of investors' ratios of firms;
- v. examine the decision usefulness of non-financial information of firms;
- vi. assess how cap imposition affects the decision usefulness financial statement information;
- vii. determine how accounting conservatism affects the decision usefulness financial statements information; and
- viii. evaluate the decision usefulness of previous years' financial statements information.

### **1.5 Hypotheses of the Study**

In order to achieve objectives 1 to 8, the following hypotheses were formulated and tested.

**H<sub>01</sub>:** Comprehensive income statement is not decision useful.

**H<sub>02</sub>:** Financial position statement is not decision useful.

**H<sub>03</sub>:** Cash flows statement is not decision useful.

**H<sub>04</sub>:** Investors' ratios are not decision useful.

**H<sub>05</sub>:** Non-financial information is not decision useful.

**H<sub>06</sub>:** Cap imposition does not negatively influence the decision usefulness of financial statements information.

**H<sub>07</sub>:** Conservatism principle does not influence the decision usefulness of financial statements.

**H<sub>08</sub>:** Information in the previous years' financial statements is not decision useful.

### **1.6 Justification for the Study**

This study addresses the concern that of financial statements is not useful for investment and credit decisions. This concern has generated a lot of reactions by affected constituencies, especially the standard setters, accounting profession, and researchers in the field of accounting. Furthermore, many research works have been carried out to explain the effect of firms' financial reports on investors' decisions. The following are some of the research works conducted in this area: Ball and Brown (1968); Beaver (1968); Easton and Harris (1991); Collins et al. (1994); Basu (1997); Francis and Schipper (1999); Dumontier and Raffounier (2002); Francis, Lafond,

Olsson and Schipper (2004); Ball and Shivakumar (2008); Karunaratne and Rajapakse (2010); Beisland (2010); Mlonzi, Kruger and Nthoesane (2011); Oyerinde (2011); Uwalomwa, Olowe, and Agu (2012); Camodeca, Almici, and Brivio (2014); Olugbenga and Atanda (2014); Modugu and Ohonba (2014); Ejubekpokpo and Edesiri (2014); Omokhudu and Ibadin (2015); Felix and Rebecca (2015); Onalo, Lizam, Kaseri and Usman (2015); Umoren and Enang (2015); Abubakar (2015).

However, the limitation of previous works in addressing the problem of this study is that, all attention was directed towards contemporaneous (current) accounting values and its effect on contemporaneous values of equity shares. This was based on the assumption of market efficiency. On the contrary, Grossman and Stiglitz (1980) revealed that prices do not perfectly capture all information in any market. Instead, part is delayed to the subsequent periods. Therefore, this study predicts that previous years' information have implications on the current year stock prices. It is on this basis that lag values are included in the study model. There is dearth of literature on the impact of previous years' accounting information on the current year prices of equity. This gap constitutes a major contribution of this work to the existing body of literature. The study attempts achieved this by examining the relation between the lag values of accounting figures and the current equity prices. There is dearth of literature in the area non-financial information as prior studies paid attention mainly on financial information. The non-financial information examined in this study includes information on the business model adopted by firms, operating environment, management efficiency, industry information, and economy information etc.

Another limitation of previous works is that, the effect of price regulation on financial statements is almost completely omitted in accounting literature in Nigeria.



One major characteristic of the Nigerian Stock Market is that stock prices are regulated (cap imposition). As such, there are different price regulations regimes ranging between 5% and 10% cap impositions (Oludoyi, 1997 & 2009). These impositions have the ability to limit how much information is incorporated into share price. This study filled this gap by accounting for the effect of the cap imposition on the relation between share prices and accounting variables.

In addition, past studies did not examine the impact of accounting conservatism on the decision usefulness of financial statements of firms. It has been identified in the literature that conservatism is lowering the book value of firms' assets when compared with its economic value. It is the amount by which market value is higher or lower than book value (Bandyopadhyay, Chen, Huang & Jha, 2010). Accounting conservatism recognizes liability, losses, and probable expenses even when they have not fully occurred while revenues are delayed until they have actually occurred. There are many revenue generating potentials such as development of new product (s), new designs, innovations, new technology, and government approval to commence the production of essential goods which are capable of influencing the economic value of firms that are not captured in the current financial statements simply because the requirements of conservatism, accrual accounting, transaction-based accounting, and realization principle are not satisfied (Collins, Kothari, Shanken & Sloan, 1994). The exclusion of vital information such as described above from the financial statement renders it an inadequate source of information for equity investment decision. The study addressed this gap by interacting conservatism with earnings to determine its impact.

Finally, the impact of capital structure on share prices was examined. This relationship is established by the fundamental analysis approach to investment

choice. This study contributed to knowledge by examining the impact of capital structure on share prices of firms.

This study is important in many ways: first, it contributes to theory development in accounting by examining the impact of accrual earnings, accounting conservatism, lagged values information, cap imposition, cash flow information, total assets, total liabilities, human capital information, R& D cost, and non-financial information on financial statement usefulness. The study is also useful to researchers in the sense that the results serve as basis for further researches. The results of this work are also capable of influencing the decisions of accounting regulatory bodies in the area of setting of standards. Finally, the results of this work are useful to the Security Exchange Commission, and the Nigeria Stock Exchange especially in the area of cap imposition on stock prices and the area of enforcing disclosure of relevant information for investments decisions.

### **1.7 Scope of the Study**

This study covers periods from 1996 to 2015. The start date of 1996 was chosen because it was a year after the Federal Government abrogated the Exchange Control Act of 1962, the Enterprises Promotion Decree of 1989, and promulgated the Nigerian Investment Promotion Decree No. 16 and the Foreign Exchange Monitoring & Miscellaneous Provision Decree No. 17. The effect of abrogating the Exchange Control Act of 1962, and the Enterprises Promotion Decree of 1989 in 1995 are better accounted for in a period after 1995. This is why the immediate year (1996) following the abrogation was selected as the start date for this study. This period is important because it was the period when the Nigerian Capital Market was brought to the lime light. It allows for foreign investors participation in the Nigerian Stock Market without limitation. Therefore, it is believed that the participation of foreign

investors in the Nigerian Market would be accompanied by Stock Market development in terms of increased foreign portfolio leading to increased market capitalization, depth, liquidity, efficiency, and improved foreign exchange amongst others. The end date (2015) was selected because as at the stage of data collection for this study, the financial statements of firms for year 2016 were not available. The study also covers only listed firms on the Nigeria Stock Exchange.

## **1.8 Operational Definition of Variables**

**Decision-Usefulness:** decision-usefulness connotes “value-relevance”. The concept of decision usefulness is related to the pricing of companies’ shares and consequently the decision to buy, hold, or sell shares of a particular firm. It is measured by a regression of share price on accounting information. The statistical significance of the regression coefficients implies decision usefulness while the extent of decision usefulness is measured by the R-squared that results from the regression.

**Financial Statements:** these are the statements of accounts of firms which include: statement of profit or loss and other comprehensive income, statements of financial position, statements of cash flows, statement of change in equity, and notes to the accounts.

**Non-financial information:** these are qualitative information contained in annual reports of firms other than the information in the financial statements. This information include: firm profile, operating environments (political, economic, and industrial), performance review, auditors’ report, and governance report amongst others. The details are contained in appendix 4.

**Cap imposition:** this is alternatively called a “circuit breaker” in the stock market. It is a limit imposed on share price movement; above which share price cannot rise and below which share price cannot fall in any trading day.

**Accounting conservatism:** this explains why the market value and the book (accounting) value of shares are not the same.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter provides a review of the relevant concepts, issues, theories, and empirics relating to the usefulness financial statements information.

#### **2.2 Conceptual Issues**

Here, the concepts of decision making, usefulness of financial statement, characteristics of useful information, investors' decision, market values, accounting variables, financial statements, accounting conservatism and Nigerian Capital Market are discussed.

##### **2.2.1 Decision Making**

The concept of decision making is found in most fields of endeavours but with specific reference to the field of management. According to Lucey (2005), decision making is part of what management does which occurs usually in every place and at all levels. It involves making a choice among many alternatives to achieve a desired outcome. Organization usually makes decisions about the various aspects of its operations so as to enhance the value of owners' investments and the economy as a whole. On the other hand, investors are equally left with making an investment choice among many investment opportunities. Decision making entails: identification of problem or desired outcome; finding various alternatives that can lead to the desired outcome; choosing the best among the various alternatives after a critical analysis of the gains/loss of each alternative; implementing the selected course of action; and evaluating the result and provide a feedback.

There are many areas where decision making is applicable but the focus of this study is equity investors' decision. When an investor is faced with many investment

opportunities he/she has to decide the most viable which reflects his/her risk preference. Decision making by equity investors includes buying, holding, or selling of shares.

#### **2.2.1.2 Decision Usefulness of Financial Statements**

Decision useful information can be described as information that is capable of influencing the actions of investors. The actions may include buying, holding, or selling of shares of a particular company. The conceptualization of “decision usefulness” in this study is drawn from the conceptual frameworks of International Accounting Standard Board [IASB] (2010), and Financial Accounting Standard Board [FASB] (2008). According to FASB (2008); IASB (2010) useful information is that information which relevant and has faithful representation (reliability). In this study therefore, information is useful only if it is capable of influencing the decision of existing and potential investors to buy, sell, or hold the shares of the reporting entities.

Therefore, according to Francis and Schipper (1999), there are four perspectives toward measuring the usefulness of financial information for decision. The four perspectives are classified as fundamental analysis, prediction, information, and measurement method.

The fundamental analysis view is concerned with the analysis of firms’ financial statements so as to determine the intrinsic value without any recourse to the price of equity (Bauman, 1996 as cited in Nilsson, 2003; Oshodin & Mgbame, 2014). Hence, financial statements information is regarded as decision useful if it causes equity price to change by capturing values towards which market price moves (Francis & Schipper, 1999).

Measuring decision usefulness by this approach, the efficiency of the market at all times is not assumed. As such, researchers who have attempted to operationalize this view assessed the link between portfolio selection based on financial statement information and abnormal return. Since market efficiency at all times is not assumed, investors can earn abnormal return especially in the period of market inefficiency. This view further stipulates that intrinsic value of shares can be determined by earnings, dividends, capital structure, and growth potential (Foster, 1986). The fundamental analysis view appeals to this study in the sense that it informs the inclusion of earnings, dividends, and capital structure in the study model in chapter three.

The second approach is referred to as prediction view. Under the prediction view, financial statement information is decision useful if such information constitutes the input into the valuation model or it is capable of predicting the input (Francis & Schipper, 1999). Such valuation models include dividend valuation, discounted cash flow valuation and discounted residual income. Researchers in this field have focused on predicting earnings. However, since this study is not an attempt to predict earnings, the prediction view is not employed in this work.

The measurement view (third approach) is concerned with the strength of firms' financial report to capture or summarize information (regardless of the source) that is reflected in share prices (Francis & Schipper, 1999). Information reflected in share price flow from various sources and at different times. Literature also reveals that financial statements information usually come much later than other information sources such as financial analyst information, industry-oriented information, economy-wide information (Ball & Shivakumar, 2008).

However, the measurement view assumes that regardless of when the financial statement information is released, it provides a summary of all information from

other sources. The assumption here is that, the moment accounting information is associated with security price; such accounting information is considered useful to equity investors. It means financial statements information provides a summary of all information in security prices.

Researchers in this area have attempted to operationalize decision-usefulness by examining the statistical association between accounting numbers and market values (Kaaya, 2015; Ruch & Taylor, 2015). If the R-squared reported in the regression result is high, then it is an indication that such information is useful to the investors and vice-versa (Oyerinde, 2009; 2011; Easton & Harris, 1991).

The fourth approach referred to as information view is concerned with whether or not the financial statements has information content. It is also called the signaling perspective or events studies (Hellstrom, 2005). It measures if investors actually use financial statement information in valuing firms' equity. Investors' consensus belief about the ability of firms to generate earnings in the future influences the price of equity and not the firms' economics (Hellstrom, 2005). Information view concludes that financial statement information is useful if it causes investors to revise their expectation about firms' ability to generate future dividend, residual income and cash flows.

Researchers in this field have subjected this view to empirical analysis by examining the reactions of price or return to announcement of financial statement information. The design is such that a short period called event window is selected, and prices movements are observed during the period of announcement. If prices significantly rise or fall shortly before, during, and after announcement, the information is deduced to be useful. Furthermore, efficient market hypothesis states that market reacts to new information by incorporating such information into security prices



almost instantaneously. When there is price change due to new information, investors may earn abnormal profit or returns. However, it is expected to last for a short period of time; otherwise it is an indication that the market is not efficient at the semi-strong form (Mlonzi, Kruger & Nlthoesane, 2011). Researchers therefore test the statistical association between abnormal return and accounting numbers announcement for the short period. This is implemented by computing a cumulative abnormal return (CAR) and test if it is significant. If it is significant, it shows there is positive relationship between market values and accounting numbers. It therefore means that accounting numbers are useful to investor in setting equity prices (decision usefulness).

Furthermore, the definition of decision usefulness in this study is restricted. There are many users of financial statement information, each having different information needs but the focus here is equity investors. Further, the IASB recognizes that information needs of users are diverse and possibly conflicting, therefore incorporating all user groups into a single model may be meaningless. The study therefore does not include users other than the shareholders. Equity investors are the owners of firms; they own the residual income of firms. It is to them management are responsible and render their stewardship. Since the focus of this study is equity investors, it operationalizes “decision usefulness of financial statement” by examining the link between accounting figures and share price.

### **2.2.2 Characteristics of Useful Information**

According to the conceptual framework of IASB (2010), the qualitative characteristics are grouped into fundamental and supporting characteristics.

The fundamental qualitative characteristics of useful information are relevance and faithful representation. The supporting features are: comparability, verifiability, timeliness and understandability. Similar categorization is made by the Financial Accounting Standard Board of US (FASB, 2008). According to FASB (2008), “relevance and reliability are the primary qualities that make accounting information useful for decision making”. Therefore, the terms faithful representation and reliability are used interchangeably in this study. Enhancing qualitative characteristics according to FASB (2008) are: verifiability; neutrality, comparability and materiality. In this study, emphasis is not on the Statement of Accounting Standard (SAS) issued by the Nigerian Accounting Standard Board (now Financial Reporting Council) because Nigeria is a member country of International Financial Reporting Standard (IFRS) users. Nigeria adopted IFRS since 2010 and up till date the IFRS is still in force but before the adoption, SAS was in use. This is the reason why the study controlled for the impact of the adoption of IFRS on financial statement information usefulness in chapter three (3). From investors’ perspective, relevant information is that which contributes to their investment decision about the equity shares of firms (Hellstrom, 2005). There are many information sets released into the security market, but the market only respond to relevant information. Relevance in the sense that, investors adjust their portfolio accordingly in response to information about the risk associated with expected future cash flow from investing in firm<sub>j</sub>, for example. From investors perspective also, if an information does not lead investors to buy, hold or sell equity, it is not relevant and as such, it is not decision

useful. Thus information which does not lead to variation in the price of equity is not relevant for decision making.

There are certain characteristics showing that particular information is relevant or not. First, information must be timely. In information theory (Lev, 1989), timeliness is very crucial in the sense that untimely information is no news. The moment an information does not have elements of “surprise” or new information (news), it is unlikely to influence any action. It means such information is not relevant for decision making. It has been argued in the literature that the timeliness of information increases values to users and consequently associated with security price (Kross & Schroeder, 1984 as cited in Abernathy, Beyer, Masli, & Stefaniak, 2014).

However, accounting information has been criticized over the years for lack of timeliness relative to other information sources (Ball & Brown 1968, 2008; Collins et al., 1994). In developed economies, financial statements information is usually predicted by investors, their advisors, financial analysts with high levels of accuracy. More so, such predicted information is released much earlier than accounting numbers, rendering accounting number less useful for decision making. Second, relevant information must have predictive value.

According to Jonas and Blanchet (2000), predictive value pertains to the usefulness of information to provide support for investors who want to predict the future earnings capability. Investors are interested in the earnings persistence of firm. Therefore, information that is relevant must help investors to predict the persistent earnings. Third, relevant information must have feedback value. Feedback value in this sense means the ability of information to confirm or to correct prior expectation of investors. Feedback value tells investors the effect of past actions of management on the current performance of firms.

Another key characteristic of useful information is that, it should be faithfully represented. It means relevance is necessary but not sufficient; the sufficient condition is that it must also be reliable. Investors are interested in the reliability of information presented in the financial statement. By faithful representation, investors want to know if the financial statement information actually represents transaction, event, and phenomena that took place in the period under review. That is, is it a fair representation of transaction that took place? Further, reliable information is expected to possess certain qualities.

First, FASB (2008) requires that such information should be complete. No material information that could aid users' understanding of economic events underlying the financial statement should be missing. Complete depiction does not however mean all information regarding phenomena should be reported, instead, all necessary information that would help users assess the risk and return associated with investments should be disclosed. Second, such information must be neutral.

Third, reliable information must be error free. It is usually expected that there are no faults or outright omissions in the description of events underlying the information (IASB, 2010).

However, it does not mean perfectly accurate in all respects instead, when an estimate is made, it must be clearly stated that it is an estimate. In any case, estimates are not actual figures, therefore sometimes they deviate. It is common to make estimate in financial reporting. Therefore, when information is said to be error-free, it does not mean accurate depiction but the estimate must well represent the phenomena.

On the other hand, the FASB (2008) requires that reliable information must possess the qualities of verifiability and faithful representation, and neutrality. Jonas and Blanchet (2000) propose that representational faithfulness. Information that

possesses quality of relevance and faithful representation must further possess some other qualities to enhance its usefulness. It means useful information can be enhanced by qualities such as comparability, timeliness and understandability (IASB, 2010).

Comparability between enterprises of similar characteristics is crucial in resource allocation (Wang, 2014). It means capital market uses the forces of demand and supply to fix prices of security. As such rational investors would tend to invest in firms that are efficient. If financial statements of firms are not comparable, resource allocation among competing firms may be inefficient. More so, if comparability of firm performance is impossible over time, planning may be practically impossible, and management performance may possibly be difficult to evaluate. In order to achieve comparability however, the principle of consistency must be adhered to (IASB, 2010). Consistency means using the same method from period to period within by reporting entity (IASB, 2010; Enahoro, 2013). The benefits of comparability to users are enormous. For example, the comparability of financial statements affords users more access to quality and much information (De Franco, Kothari & Rodrigo, 2011; Kaisement, 1997; Archer, Delvaille & McLeay, 1995; Callao, Jarne & Lainez, 2007).

Furthermore, verifiability is also an enhancing qualitative characteristic of useful information. Verification can be carried out in a direct manner or indirectly. Direct verification is achieved by confirming or checking a depiction of a value in the financial statements against what is available is direct verification. For example, a physical counting of stocks or cash against what is depicted on the financial statement. On the other hand, indirect verification means checking the input value and quantity used in computing the amount depicted in the financial statement (FASB, 2008). An indirect verification involves re-computing amounts depicted

using the same facts, figures, and methods. Where depictions are estimates instead of actual figures, the assumption underlying the estimation must be clearly stated, the method also must be provided, and the factors and circumstances considered. Financial statement information verifiability is very crucial otherwise the reliability of such information would be in doubt. If the verifiability of information is in doubt, users' confidence is eroded and such information would be perceived un-useful by investors.

Understandability is another important aspect of useful information. No matter how relevant or reliable information is, if it is not understood by users, it may not be useful for their decision purpose. Although, IASB (2010) requires that users should be knowledgeable about business circumstances but complex financial statement information may not be usable since it is not understood. Easy-to-read financial statement information reduces the cost of information gathering and the chance of drawing wrong conclusion. However, in order to gain the understanding of financial statement, investors usually seek the services of experts to interpret the content but it is usually not without cost.

Understandability involves the use of plain language, plain English that is easy to read, simple, clear graphs and charts (Jonas &Blanchet, 2000). To enhance the understandability of financial statement information, notes to account is useful. Firms may take advantage of notes to accounts to provide explanation of the figures in the financial statements.

The concept of materiality is usually defined in relation to relevance because it determines how useful information is; but there is always the problem of determining the threshold of information that is large enough or small to influence or change users decision. There is some information that its inclusion in the financial statements may constitute a problem of information overload. On the other hand,

information may involve amount that is capable of changing user's decision and omission of such information may make the financial statement information misleading.

Finally, there is a trade-off between relevance and reliability. The focus of financial reporting is to provide useful information for users' decisions. Other objectives are the stewardship function, management compensation, and contracting roles. Investors have confidence in the audited financial statement information than other information sources because it is perceived reliable. It is usually audited by independent experts, and it is directly from firm. Another reason could be that historical cost which is the basis of most information contained in financial statement is perceived to be objective, verifiable and consequently reliable. On the other hand, historical cost information is perceived by some constituents to be decision irrelevant. It is all together backward looking meanwhile decision relevant information must be forward looking. It has been argued however that useful information must possess both qualities of relevance and reliability (IASB, 2010; FASB, 2008; Jonas & Blanchet 2000).

In standard setting, the boards (IASB & FASB) recognize that information may possess the two qualities at different degrees. Therefore, the boards can make trade-off between the two when making decision to set standard on any issue. The conceptual framework provides a guide and theoretical explanation for standard setters' decision on issues. Some constituents have questioned the trade-off made between relevance and reliability (Johnson, 2005). They questioned the decision of the boards to favor relevance above reliability by favoring fair value over historical cost. Those who argue against the dominance of relevance over reliability claim that reliability has richer characteristics than its definition in the conceptual framework (Johnson, 2005).

The position of the boards is clear on the matter. While the boards recognize that none of the two characteristics is entirely dispensable but much emphasis is laid on relevance than reliability (Stanga, 1980). The decision of the board to maintain the continued relevance of financial statement for decision making is based on the focus of the financial reporting which is relevance for decision making (Stanga, 1980). However, without reliability, relevant information for decision making is not achievable (IASB, 2010; FASB, 2008).

### **2.2.3 Share Price and Investors' Decision**

Investors' decision examined in this study is limited to shareholders' investment decisions. The choice of shareholders is connected to the recognition given to them in the literature as owners of firms, and as primary users of financial statements (IASB, 2010 as cited in Palea, 2014). Shareholders' decisions are usually related to units of share, share price, and other relevant information. Shareholders' decisions include: pricing of shares (Hellstrom, 2005), buying or not buying additional units of shares, and the decision to hold on to the units already acquired, or sell off their investments and these decisions are usually influenced by relevant information.

In an efficient market, equity price adjust to new information almost instantaneously such that no individual participant can use available information to form a strategy that outperforms the market. Therefore, equity value which is also referred to as stock price or share price is the summary of all available information (Camodeca et al., 2014; Olugbenga & Atanda, 2014; Pervan & Bartulovic, 2014; Perera & Thrikawala, 2010). There are many information streams into the capital market among which financial statement is one. Other information sources are economy wide information, industry-oriented information, the press, financial analyst, rumor, amongst others. This information put together influence investors' perception about the past, present, and future performance of firms (Hellstrom, 2005). The perception



of investors about the economic value of firm determines how the equity of such firm is priced. This study however, examines the impact of financial statement information on security price of firms.

Furthermore, depending on the nature of the study being carried out (measurement study or event study), share prices can be obtained at various points in time. Prices can be obtained daily, weekly, monthly, quarterly or annually. The event study requires much data frequency than the measurement study (Bernard and Thomas, 1990; Khangha, 2011; Holthausen and Watts, 2001; Ball and Shivakumar, 2008). As such, the equity price towards the end of trading when announcement is made is usually obtained for analysis in event study. Using monthly, quarterly, or annual price for events study may not be most suitable since prices respond to new information quickly. This is consistent with the previous research (Mlonzi et al., 2011; Easton & Harris, 1991, Barth, Landsman, Raval & Wang, 2014). In the Nigerian Stock Market, firms announce earnings on the average of four (4) months after the fiscal year (Fagbemi & Uadiale, 2011).

Since this study adopted the measurement view, the study obtains the share price at the close of the working day ending the four months following firms' fiscal year end. Since most firms on the average do not release their annual report earlier than four (4) months, the study sets four months as maximum limit. If prices are taken at a date earlier than when the reports are released, such prices would not reflect information released at later period, except the market is efficient at the strong form. Since there is no evidence that the Nigerian market is efficient at the strong form, prices are obtained when financial statements information is released.

#### **2.2.4 Operationalization of Decision Usefulness for Investors' Decision**

Primarily, there are two basic qualitative features of useful information, relevance and reliability and they jointly determine whether or not financial information is

useful. It means that, useful information must both be relevant and reliable. Other qualitative characteristics relate to either relevance or reliability. In a practical sense, other qualitative characteristics are rather elements of the fundamental characteristics. The moment information is relevant and reliable; it has satisfied all other characteristics (IASB, 2010).

Therefore, the study operationalizes decision usefulness by testing for relevance and reliability of financial statement. Further, literature reveals that the two characteristics cannot be tested separately from each other (Francis et al., 2004). It means useful information is both relevant and reliable. Significant statistical association between equity value and accounting information shows that such accounting information is useful (Easton & Harris, 1991; Amir & Lev, 1996; Dumontier & Raffounier, 2002; Shivakumar, 2013; Oyerinde, 2011; Ball & Sadka, 2015). Since the focus of the study is investors, the study measure decision usefulness by regressing equity value of firm (share price) on financial statement information such as earning, book value, dividend, cash flow, and “non-bottom line” variables such as research and development cost, human capital etc. The R-square is used in measuring decision usefulness by examining the variation in share price explained by accounting variables.

### **2.2.5 Accounting Variables**

Accounting variables in this context are the information reported in the annual accounts of firms out of which earnings are key components.

#### **2.2.5.1 Earnings**

Earning is a difficult concept to define. It is used interchangeably in the literature with income and profit. The term earning could mean different things at different times and situations. In the same vein the term profit could be interpreted differently in some situations. Also, the word income is defined in accounting differently from

economics. Income could be accounting income, business income, economic income, capital maintenance income, comprehensive income, and Edward and Bell's (1961) concept of business income. Attempt has been made by FASB to provide a description of earnings as: "Earnings focus on what the entity has received or reasonably expects to receive for its output (revenues) and what it sacrifices to produce and distribute that output (expenses). Earnings also include result of the entity's incidental or peripheral transactions and some effects of other events and circumstances stemming from the environment (gains and losses)".

Earnings are the most important performance measure of management of an entity (Lal, 2003; IASB, 2010; FASB-SFAC No2, 2008). It is a "bottom line" figure obtained from the income. Income performs many roles ranging from measuring management efficiency, providing a guide on dividend and retention policy, prediction of future earnings, computation of tax liabilities, to measuring the capability of an entity to continue operation (going concern). Accounting income follows the income statement approach. It is the excess of revenue over the expenses incurred in generating the revenue. That is:  $\text{Revenue} - \text{Expenses} = \text{Net Income}$  (Lal, 2003). Accounting income usually referred to as business income is a direct product of the generally accepted accounting principles. Precisely, accounting rule for example requires that recognition of gains is subject to the principle of realization. Put another way, accounting income is transaction based (Lev & Zarowin, 1999). It is only when transaction (financial event) takes place either revenue or expenses that such is reported; otherwise it is inconsequential in accounting.

When the revenue for a selected period is identified and the cost corresponding to the revenue earned is equally identified, the matching principle is applied by comparing revenue with corresponding expenses and the residue or difference is referred to as income or earnings (Hendriksen, 2001; Lal, 2005; Glautier & Underdown, 2001).

On the other hand, the economic income which is another approach to income measurement follows the Hick's concept of income (Schipper & Vincent, 2003). Hick (1946) as cited in Lal, (2003) defined income as the maximum amount which can be taken off from assets during a particular period, and still maintains the capital. The economic income approach attempts to measure the increase in wealth of owners (income) without impairing their wealth as it was at the beginning.

A major difference between the two concepts/approaches is that accounting income is an income that results from business transaction (Lal, 2003). It is transaction-based, that is, based on money value. Economic income on the other hand does not necessarily result from business transactions or arising from the cash-to-cash cycle of business operation but it concerned with change in assets measured in real term. Another major difference is that accounting income is based on realization. It is only when revenues are earned (result of actual transaction) and expenses are incurred that accounting income is measured. On the other hand, Francis, Schipper & Vincent (2002) state that economic income is based on "valuations of all anticipated future benefits, recognizes these flows-well before they are realized."

As a result of these differences, income measurement in accounting is not the same with economic income. In this study however, the accounting income measurement is used. This is because economic income is based on valuation resulting from estimation of values and hence it is not objective and verifiable. From investors' perspective such information is not reliable and as such it is not decision useful (FASB, 2008, IASB, 2010). It is unlike accounting income that is a product of business actual transaction measured in monetary terms. Therefore, since this study conceptualizes decision usefulness as information that satisfies the most basic attributes of useful information (relevance & reliability) the study uses accounting earnings.

Furthermore, accounting income can either be classified as operating income, non operating income, comprehensive income, net income and earnings. In this study the Net income after tax but before extra-ordinary items is used. This is in line with the work of Abubakar and Abubakar (2015); Francis and Schipper (1999); Lev and Zarowin (1999). According to Accounting Standard No. 5, cited in Lal, (2003), extraordinary items are income or expenses that are momentary and unconnected with the core operation of enterprise. It implies that extra-ordinary items do not form part of the income from operation and as such cannot be used to judge management efficiency or earnings persistence (Francis, Schipper & Vincent, 2002; Francis et al., 2004; Jones & Blanchet, 2000). Therefore, the study uses profit after tax before extra-ordinary items. This figure is obtained from the income statement and adjusted for extra ordinary items. Previous studies that have provided evidence on earnings as a variable that explains variations in equity stock values are numerous as follow: Easton and Harris (1991); Gjerde et al. (2011); Camodeca, Almici, and Brivio (2014); Amir and Lev (1996); Oyerinde (2011); Brown, Lo, and Lys (1999); Lev and Zarowin (1999); Fillip and Raffournier (2010); Francis et al. (2004); Mlonzi et al. (2011); Dumontier & Raffournier (2002); Omokhudu & Ibadin (2015); Olugbenga and Atanda (2014); Dontoh, Radhakrishnan and Ronen (2004); Abubakar and Abubakar (2015); Collins et al. (1997); Beisland (2010); Pervan and Bartulovic (2014). Finally, the lagged values of earnings were also examined in this study so as to measure the impact of previous years' financial information on the current year share prices of firms.

#### **2.2.5.2 Cash Flows**

Cash flows details furnish users with information about firm's potentials to be liquid and how the liquid is properly expended (Lal, 2003, Francis & Schipper, 1999). Since the economic decision of most users of financial statement information is

connected to the ability of firms to generate cash in future, then cash flow information is very crucial as part of information supplied to users.

Basically, earning has two components: accrual earnings; and earnings from cash operation. The accrual component of earnings is a direct product of the generally accepted accounting principles but earnings from cash operation is less affected by accounting rules. Accrual earnings are claimed to be less informative because it is a result of past transaction rather than future estimates required by investors (Lev & Zarowin, 1999). Accrual earnings exclude vital information such as gains, revenues/profit yet to be realized. In other word, any information on gain, that is, revenues/profit no matter how relevant is not reported the moment there is no transaction to that effect.

However, such information is important in understanding the ability of firms to earn income in the future. Besides, the accrual earnings is regardless of whether cash is paid or received (Lal, 2003), but users are more interested in the cash effect of firm's transaction. Cash flows therefore do not include movement of funds that are not cash in nature. It does not also include estimate of any sort, instead it is objective (Basu, 1997). Further, since the valuation theory establishes a direct link between equity share values and accounting variables, the study includes cash flows as part of the predictors of equity value contained in chapter three (3). Generally, cash flows are reported under three main headings: operation; investment, and financing. These are all examined in this study. Following prior research such as Beisland (2010); Shubita (2013); Lev and Zarowin (1999), aggregate earnings are split into earnings from cash operation (Lorex, 2014) and accrual earnings, where cash earnings from operation is defined as:

Cash earnings from Operation = Profit minus Accruals earnings.

Accrual = Change in total working capital minus change in deferred taxes minus Depreciation & Impairment. Alternatively, accrual earnings are the difference between the reported profits for the year less earnings from cash operation, and as such this alternative approach was adopted in this study.

Other researchers that have used cash flows as explanatory variables for equity value are Karunaratne and Rajapakse, 2010; Basu, (1997); Board and Day (1989); Francis et al. (2004); Khanagha, (2011); Camodeca (2014); Amir and Lev (1996); Vafeas, Trigeorgis, and Georgious (1998); Elshandidy, (2014). The study also examines the lagged values of cash flows so as to measure the impact of previous years' financial information on the share prices of firms.

#### **2.2.5.3 Book Value of Equity**

Book value of equity is also referred to as owners' equity, net assets and residual claim is one of the components of statement of financial position examined in this study. It is the excess of total assets over total liabilities (Glautier & Underdown 2001). Book value, like other accounting variables (Mourik, 2010) has link with equity value (Akbar & Stark, 2003; Easton & Harris, 1991; Filip & Raffournier, 2010). The book value is obtained from the statement of financial position by finding the difference between total asset and total liabilities. The definition of book value as used in this study is in line with previous studies (Dontoh, Radhakrishnan & Ronen, 2004; Elshandidy, 2014; Khanagha, 2011; Vefeas et al., 1998; Akbar & Stark, 2003; Pervan & Bartulovic, 2014).

#### **2.2.5.4 Dividend**

As much as earnings information is important in influencing investors' belief on firm efficiency and ability to generate cash flows in the future, dividend policy of firms plays important role. Firms that pay dividend are usually perceived by investors as efficient, effective and promising. Return on investment is derived from two

components: capital gain (appreciation) and dividend received (Pandey, 2004). While some argue that profit should be ploughed back to business, and as such the firm would be better off in the long-run, others argue to the contrary. Those who argue to the contrary believe that firm should pay dividends because investors' belief is that money available at hand is worth than money expected. It means investors naturally, considering time value of money, and needs to hold money, would prefer to receive dividend. Companies which pay dividend are perceived and rated high by such investors. As a result, investors price the equity shares of such firms higher than firms which do not pay dividend. On the contrary, paying of dividend reduces firm's growth rate and as a result, it reduces share price (Pandey, 2004). In reality however, it is unlikely that low pay-out policy will lead to increase in share price (Pandey, 2004). There are basically two schools of thought about the relationship between share value and dividend decision. The first school believes that dividend is relevant while the other believes the contrary. This study employs the dividend relevance approach because the valuation theory which underpinned this work recognizes the relevance of dividend in determining equity share value (Ohlson, 1995). The inclusion of dividend in the model in chapter three is in line with earlier studies such as: Modugu, 2014; Olugbenga and Atanda 2014; Omokhudu and Ibadin, 2015; Uwalomwa, Olowe and Agu, 2012; Ejubekpopko and Edesiri, 2014; Oyerinde 2011; Akbar and Stark, 2003).

#### **2.2.5.5 Assets and Liabilities**

Assets and liabilities are some of the components of the statement of financial position examined in this study. They convey vital information that influences decisions of investors just as earnings, book values of equity, and cash flows convey vital information that influences decision of investors because assets are used in generating earnings while liabilities are source of capital to firms. Therefore, it is



reasonable to expect that value of such assets would provide investors with information about the ability of firms to generate earnings or cash flow in future.

The value of assets referred to in this study is not the economic or market value, instead, it refers to the value of assets measured in line with the provisions of the International Financial Reporting Standards (IFRS).

Furthermore, investors are equally interested in residue accruing to them after all claims on the assets are deducted. Liabilities on the other hand are the claims on assets. As such, liabilities firm provide information relevant in calculating what is accruable to owners. Information about the liabilities of firms also provides vital information about the risk on firms' asset. In evaluating the return on investments, the issue of risk cannot be undermined (Pandey, 2004). It is hereby proposed that the liabilities figure provides information that influences decision of investors to buy, hold or sell securities.

Assets may be classified into tangible and intangible assets, current and noncurrent (Lal, 2003, Glautier & Underdown, 2001; Pandey, 2004; Olowe, 1997). Both current and noncurrent assets provide vital information about the liquidity, worth, and earning ability of firms. Therefore, total asset is included as explanatory variable in the model contained in chapter three. In the same vein, the total liabilities (current liabilities + long term liabilities) are equally included as an explanatory variable in the model (Francis & Schipper, 1999).

There is paucity of literature on the decision usefulness of total assets and total liabilities information. Previous works focus mainly on the book value of equity as a representation of statement of financial position information. Thus the use of only book value of equity limits the information content of the statement of financial position.

#### **2.2.5.6 Research and Development Costs**

Research and development cost is one of the components of income statements examined in this study. Literature reveals that financial statements information has been criticized for excluding vital information that is capable of influencing investors' perception. It has also been criticized for the application of accounting based rules resulting into wrong treatment of certain transactions (Barth, Clement, Foster & Kasznik, 1998; Abubakar & Abubakar, 2015; Holthausen & Watts, 2001; Amir & Lev, 1996). For instance, IAS 38 provides that any intangible asset arising from research should not be recognized as assets instead it should be expensed. Development cost on the other hand, if it satisfied the condition for recognizing intangible asset, should be capitalized. Research cost, instead of writing it off when incurred should be capitalized and reported because the benefit of such cost is not utilized in a single accounting period. Furthermore, business change, new products, improved production process are usually triggered by research (Lev & Zarowin, 1999). Therefore, such information (cost of research and development) is likely to have link with equity value. Put differently, R & D cost provides information to investors about innovations, creative ability and consequently earning potentiality of firms. It is on this basis that it is included as an explanatory variable in model of the study. This variable has been found significant in various economies especially US and UK (Akbar & Stark, 2003). However, there is paucity of such evidence from Nigeria.

#### **2.2.5.7 Human Capital**

The importance of human capital development in the long-run profitability of firms and the economy at large cannot be over-emphasized (Ijaiya & Ijaiya, 2004). Furthermore, the disclosure of information about intellectual assets of firms has been advocated over a long period of time. It is argued that such disclosure provides

investors with information on firm value (Barth et al., 1998). It also provides information on the quality of management team and staff of enterprises. The capital market responds to news. If for instance, the chief executive officer (CEO) of firm<sub>j</sub> (who is a key player in the industry) resigns his position and moves to firm<sub>k</sub> within the same industry or outside can lead to revision of share prices of both firms. Therefore, the study expects information on human capital to influence investors' perception (consequently the share price). The researcher is not aware of many studies in Nigeria that examined the influence of human capital on decision usefulness of financial statements. The work of Salman (2014) examined market values as indicator of firm performance. As a result, the study examined the influence of intellectual capital on market value (an indicator of firm performance). This study however examines how human capital information influences decisions of investors. Besides, the lagged values of human capital were examined in this study to measure the influence of previous years information on human capital on share prices of firms. Furthermore, the use of wages and salaries as proxy for intellectual capital; for example Yaghoobi, Moradi & Nooghabi, 2015) is grossly inadequate (Salman, Yahaya, & Sanni, 2015). Vital information that can really influence share price is excluded if wages and salaries alone are used as employees' expenses. Intellectual capital transcends wages and salaries to include cost of recruitment, training, retraining, staff welfare, employees' compensation (Salman, 2014). Basically, intellectual capital is classified into three broad headings: human capital; structural capital; and capital employed but for the purpose of this study, human capital was examined.

#### **2.2.5.8 Non-Financial Information**

Capital market is information-driven; and as a result, share price responds to relevant information which includes both financial and non-financial information. The price

of shares drifts towards the intrinsic value of shares (Francis & Schipper, 2004). Intrinsic value of shares basically reflects firms' business model, operating environment (Francis & Schipper, 2004), firms' resources, management efficiency, future investments plan, new discoveries, new products, new product design, newly discovered technology, innovations, and firms' ability to generate cash flows amongst others; thus, information about the intrinsic value is not captured wholly by the financial statements. Firms' resources go beyond physical and financial assets to include human assets, information and communication technology, research and development, firms' brand name etc; hence the need to report them adequately in the financial statements.

The non-financial information consist of: operating environment of firms, industry-related information, and economy-wide information, Business model, directors' information, corporate social responsibility information, corporate governance information etc. Therefore, any information in the annual reports of firms capable of influencing the intrinsic value of shares but not captured within the financial statements is classified in this study as non-financial information. It is noted that the financial statement contains a segment called notes to the accounts. Basically, notes to the accounts comprise a summary of significant accounting policies and other explanatory information. The notes are expected to provide further explanation that will enhance users' understanding of figures contained in the financial statement (IASB, 2010). The International Accounting Standard no.1 stipulates that notes to the account may also include financial risk management of the reporting entities but there are many risk associated with a business that may not be adequately captured by financial information; hence, the need to examine the non-financial information together with the financial information.

#### **2.2.5.9 Capital Structure**

Capital structure is one of the variables examined under the statement of financial position so as to measure its impact on investment decision. The capital employed by firms in financing its assets can either be solely equity or the combination of equity with debt financing. When investment decision is made by firms, the next crucial decision is the source of fund for financing such investment or project. Equity in this sense means the shareholders fund which includes the paid-up share capital, premium on paid-up shares, reserves, and retained earnings. Debt on the other hand means long-term borrowing which may be a debenture. The next crucial issue is the mix of equity and debt capital. Therefore, the proportion of the mix between equity and debt is termed capital structure (Pandey, 2004). Capital structure can be measured using the following ratios: debt ratio; debt-equity ratio, and interest coverage (Olowe, 1997).

#### **2.2.6 Financial Statements of Nigerian Quoted Firms**

IAS no.1 of IASB (2001) defines financial statements as an organized depiction of financial position and performance of a firm. It further states that financial statements provide information about an entity's assets, liabilities; equity, income and expenses, including gains and losses, contribution to owners in their capacity as owners; and cash flow.

Lal (2003) defines it as a means of communicating financial information to the users, especially the external users. Therefore, the primary purpose of financial statements is to provide information that is useful to users (Sutton et al., Van Zijl, 2015). The users of financial statement information includes: equity investors; creditors; managers; customers; suppliers; employees; government; and financial analysts.

Furthermore, according to IAS no.1 of IASB (2001), a complete set of financial statements includes: the statement of financial position, the statement of profit or loss

and other comprehensive income, a statement of change in equity, a statement of cash flow, and the notes to accounts. Precisely, the explanatory variables examined in this study were obtained from the financial statements. In practice, the experience is that on the average, published financial statements are released later than three (3) months in Nigeria (Fagbemi & Uadiale, 2011). Therefore, due to this delay in publishing financial statement the study uses financial statements published not later than four months after the fiscal year end.

#### **2.2.7 Description of the Nigerian Stock Market**

The history of the Nigerian Stock Exchange (NSE) is dated back to almost when Nigeria obtained her political independence. The then Lagos Stock Exchange was established in the year 1960 as a private sector exchange by the promulgation of Lagos Stock Exchange Act of 1960. It is the first stock exchange in West Africa and the sixth in Africa (Anugwara, 2013). It started operation in 1961 with nineteen (19) listed securities worth 80 million naira. By December, 1977, it became the Nigerian Stock Exchange with branches in some commercial cities in the country. Later, other branches were established, for instance, the Kaduna branch was established 1978, and Port Harcourt 1980, Kano 1989, Onitsha & Ibadan 1990 (Olowe, Mathew, and Fasina, 2011; Abdulkadir, 2015). Up till now, the head office of the Nigerian Stock Market remains in Lagos. In 1962, a committee called the issues committee was established to serve as advisory and consultative body to the central bank and the council of the stock exchange. The committee was replaced by the capital issues commission by the promulgation of decree No 14 of 1973. The Commission was empowered beyond the advisory role to determining the prices of security offered for sale and allotment of shares. In 1979, the Security and Exchange Commission was established as the apex regulatory body for the Nigeria Capital Market amongst other

things by Decree No 71 of 1979. In 1988 the Security and Exchange Commission Decree of 1979 was re-enacted which gave more power to the Commission to determine stock prices, register all securities, and regulate the activities of the Nigerian Stock Exchange and other participating bodies in the capital market. Basically, the capital market is categorized into: the monetary intermediaries, comprising of Central Bank of Nigeria, commercial and merchant banks; the non-monetary intermediaries which includes development banks, insurance companies and unit trusts; and the Stock Market where shares, bonds, and loan stock are listed and traded (Oludoyi, 1997).

Stock Markets have unique characteristics in terms of economic activities, institutional environment, infrastructural development, information & communication technology, regulatory framework, market efficiency, investors' sophistication, information flow, market size, market depth & liquidity.

One of the major characteristics of emerging markets like the Nigeria Stock Exchange is the problem of weak institution and regulatory environment (Puffer, McCarthy, Jaeger & Dunlap, 2013; Perotti & van Oijen, 2001 as cited in Yartey, 2010, Pagano, 1993 as cited in Yartey, 2010; Yartey, 2008, 2010; Abullahi, Lawal, & Etudaiye-Muhtar, 2011). In Nigeria, the Stock Market is regulated by certain laws. Before the enactment of the Investment and Securities Act No 45, 1995, effective in 1999 as amended in 2007, the Lagos Stock Exchange Act of 1962, Security and Exchange Commission 1988, the Nigerian Enterprise Promotion Decree of 1989, part XVII of CAMA, 1990, section 3(d) of the Capital Gains Act and section 21(2) of the Nigeria Investment Promotion Decree of 1995 were in use.

Due to the deregulation of the capital market in 1993 and the enactment of Investment and Securities Act of 1995 as amended in 2007, the market grew

unprecedentedly. It shows the crucial roles of institutional framework on market activities. Furthermore, the volatility of the market, a major characteristic of emerging market is linked to the weak institutions in such market. Weak institution in this sense is referred to as the legal and regulatory systems (e.g property right, rule of law, anti-director rights, law of one share one vote) guiding the operations of the Nigerian Stock Market.

The volatility witnessed by emerging market compared to the developed market necessitated the imposition of price limits (circuit breaker) to moderate the indiscriminate movement in equity prices. However, such imposition limits how share price reflects the information contained in the financial statements. There are different regimes of caps. Before April 1995, the price limit was 10 kobo on both directions. In April 1995, it was reviewed up to 20 kobo per trading day. In 1996, the price limit was set at 5%. There was a differential rate of 1% maximum downward and 5% maximum upward early 2008. A single limit was maintained in late 2008 at 5% either way. In 2012, there was an upward review to 10% either way per trading day. The NSE rule book as at 31<sup>st</sup> Dec 2015 shows that the price limit is still maintained at +/-10%. In the rule book, it is also proposed that no share shall trade below a price floor of 1kobo (1k) per unit (rule not yet effective). This study therefore examines the impact of cap imposition over price movement on the decision usefulness of financial statement information.

### **2.2.8 Accounting Conservatism**

According to the Statement of Financial Accounting Concept (SFAC) No. 2 of FASB (2008), conservatism is defined as: "...a prudent reaction to uncertainty to try to ensure that uncertainties and risks inherent in business situations are adequately



considered. Thus, if two estimates of amounts to be received or paid in the future are about equally likely, conservatism dictates using less optimistic estimate...”

The definition provided above implies that accounting conservatism is the practice of anticipating and providing for all losses whether or not they have actually occurred while revenue and income are delayed until they have actually occurred. The application of accounting conservatism to income statement therefore requires that items of revenue, income or profit should not be anticipated whereas all probable losses must be provided for in the income statements. In the financial position statement, the application of accounting conservatism requires that the lowest value amongst several other possible values is used as carrying amount for assets while the highest value amongst other possible values is used as the carrying amount for liabilities (Watts & Zimmerman, 1986; Dutta & Patatoukas, 2015).

This practice of recognizing all probable losses and delaying all probable incomes until they have occurred has some consequences in terms of its costs and benefits depending on whether the financial statement is used for valuation purposes or for contract settlements. However, the general consequence of conservatism principle is that the net assets based on accounting records is perpetually kept lower than the economic value of net assets. This is why Basu (1997); Watts (2003); Bandyopadhyay, Chen, Huang, and Jha (2010); Chen, Folsom, Paek, and Sami (2014); Ruch and Taylor (2015) describe accounting conservatism as accounting practice that results into a reduced value of accounting net assets compared to the economic value of net assets.

Specifically, the costs and benefits of accounting conservatism is contentious in the literature in the sense that some studies argued strongly that the costs of applying

conservatism in the preparation of financial statements outweigh its benefits while some other studies argued in favor of the application of accounting conservatism.

The arguments forwarded by the advocates of accounting conservatism are uncertainties surrounding business operation, asymmetric pay-off between borrowers and lenders of fund, and the agency problem between owners and management (Xie, 2015).

Concerning the uncertainty linked to business environment, there are certain events that management especially the reporting accountant has to contend with. For instance, the collection of doubtful trade receivables is uncertain; determination of the useful life of non-current assets is equally uncertain, discount allowable on receivables is doubtful, and the determination of court cases before the court judgment is also uncertain; hence, the reporting accountant has the option of providing an estimate of event after assessing the degree of likelihood of occurrence, and then recognizes such in the accounts (IASB, 2001).

Furthermore, the advocates of accounting conservatism argued that where there is debt agreement, the borrower has the tendency of reporting on timely basis information that portrays the firm as internally efficient while the information that reveals the weakness of the firm are concealed resulting into information asymmetry between the lender and the borrower (Ruch & Taylor, 2015). The lender is disadvantaged in this case because the information about the brilliant performance of the borrower may not do well to the lender as much as information about the internal crisis experienced by the borrower. If the lender has the information about the internal problem faced by the borrower on timely basis, it enables the lender to take prompt action to protect his/her interest (Lara, Osma & Penalva, 2011). In other words, timely loss recognition enables lenders to assess the potential default risk

which may eventually make him decide to either withdraw or not withdraw from the debt agreement depending on his/her risk appetite. The alleviation of asymmetric pay-off between the lender and borrower is the natural role played by accounting conservatism, and this is why it is advocated by some scholars. Similarly, it is advocated that accounting conservatism equally benefits borrowers in the sense that lenders are willing to accept lower cost of capital if the borrowers provide information that enables them assess the default risk associated with their investments.

To the equity investors, it is documented that accounting conservatism benefits their investment decision in the sense that timely loss recognition when there is bad news provides useful information for the investors; thus, it is suggested that there is positive link between conservatism and information quality (Watts, 2003).

Similarly, conservatism is said to reduce information asymmetry between the management of firms and the investors such that private information that is relevant in assessing the future cash flow of firms which may not be available to the investors are communicated to them through the application of accounting conservatism.

In contrast, the costs of accounting conservatism are prevalent where preparers of financial statements recognize losses on a timely basis when there is good news resulting in a weak association between accounting information and share prices. If there is probable gain and such is deferred, earnings do not provide useful information for investors' decisions (Xie, 2015). In addition, the practice of expensing research and development cost provides motivation for earnings management which reduces accounting information quality. Apart from providing motivation for earnings management, expensing research and development cost and advertising cost instead of capitalizing them introduces volatility into earnings

streams; thus decreasing earnings persistence and earnings predictability of firms (Chen et al., 2014; Ruch & Taylor, 2015).

Finally, the effect of accounting conservatism in terms of its costs and benefits depends on whether it is a conditional conservatism or unconditional conservatism. Conditional conservatism is an accounting practice where bad news inform of probable losses are recognized in the books earlier than when there is good news inform of probable gains e.g the use of lower of cost and net book value in the recording of inventories, and impairment test on non-current assets. Contrarily, unconditional conservatism is not linked to any news but the continuous under-recognition of net asset by witting off the cost of research, advertising, and the use of accelerated depreciation (Bandyopadhyay et al., 2010).

## **2.3 Theoretical Framework**

In behavioral accounting research, literature reveals that information that influences action is useful. More precisely, if investors adjust their portfolio in response to accounting information released into the capital market, then such information is useful; but if otherwise, such information does not convey any new information. The capital market efficiency theory, decision usefulness theory, information theory and valuation theory are relevant theories that establish a connection between information and users' behavior and as such constitute the theoretical framework within which this study is situated.

### **2.3.1 Decision Usefulness Theory**

Developed by Staubus in the 1950s, the theory stipulates that the prime focus of financial reporting is to make information that is useful for investment decisions available. It focuses on the cash flows effect of past transactions rather than the accrual based accounting numbers. This is the basis for splitting the aggregate

earnings into accrual earnings and cash flows from earning in chapter three (3). It is believed that cash flows meet the information needs of investors in a direct manner much more than the accrual based net income. Furthermore, it is assumed in financial reporting that the common ground among users of financial statement information is the expected future cash flows that firms generate from employing its assets in terms of amount, timing, and related uncertainty. This theory also provides the basis for the study proposition that accounting numbers communicates information relevant for decision making. It is emphasized here that financial accounting is not designed to measure directly the value of a firm, rather the information it provides is expected to serve as input into the firm value estimation process or models (FASB concept No. 1).

Decision usefulness theory provides basis for choosing among alternative accounting methods. Accounting practice has been plagued over the years by alternative choices which are in most cases conflicting. For instance, in inventory reporting professional accountants have latitude to choose between LIFO and FIFO. The two methods will in no case produce the same earnings report or stock values. Therefore, preparers of financial statement have to choose among conflicting alternatives. The emergence of decision usefulness objective helps the accountants to resolve this issue. This theory has contributed immensely to the practice of financial accounting and financial reporting. Standard setters are guided by this theory in performing their duty of setting standard. It serves as the theoretical underpinning for the conceptual framework of standard setters (FASB in the US and the IASB in the UK). Dandago and Hassan (2013) is one of the recent studies that used the decision usefulness theory. This theory is limited in the sense that it is a grounded theory (Inanga & Schneider, 2005) and as such it fails to provide a description of what accounting practice currently is. It also fails to explicate a logical foundation of accounting, but

rather to shaping future choice amongst alternative financial reporting techniques (Ravenscroft & Williams, n.d., p.5). However, this theory provides the basis for examining the relationship between cash flows and market value.

### **2.3.2 Capital Market Efficiency Theory**

The capital market efficiency theory stipulates that all publicly available information is impounded in security prices such that on average, no individual market participation can outperform the market. Stated in another way, it means no individual market participant can device or strategize using publicly available information to persistently earn a risk adjusted return in excess of market risk adjusted return. All relevant publicly available information is almost immediately reflected in stock prices, while irrelevant information released is ignored by the market. Whenever new information is released into the market, adjustment in market price takes place almost instantaneously causing disequilibrium in the pricing system. In an efficient market, the state of disequilibrium engendered by news released is expected to last for a short period before a new equilibrium is attained.

Jensen (1978) cited in Watts & Zimmerman (1986) states that:

Market efficiency is attained in relation to particular information set  $\theta$  if it is hard to make super profit by trading on the information set  $\theta_t$

The meaning of Jensen's definition is that if an information set  $\theta_t$  such as a published financial statement information is widely known by the market participants, trading in such information set in a competitive market would only earn investors a market risk adjusted return. It means on the average, economic profit would be zero (Watts & Zimmerman, 1986). The term average is very crucial in explaining market efficiency. In a world of uncertainty, there is the chance that an investor can outperform the market exists at a point in time. Stated another way, an investor may be lucky to earn risk adjusted return that is higher than the market risk-adjusted

return. However, such opportunity does not persist for all time periods such that the investor's super profit is zero. Economic profit is the excess of realized risks-adjusted return over the market risk-adjusted return. It is zero if the realized risk adjusted return is equal to the market risk-adjusted return.

Watts and Zimmerman (1986) mentioned that to attain the zero profit situation, all costs which include transaction costs, and costs of obtaining the information should be considered. As one of the fundamental attributes of market efficiency theory, if the costs are nothing with respect to information set  $\theta_t$ , the expected price of security  $j$  that is,  $E(P_{j,t+1} | \theta_t)$  is:

$$E(P_{j,t+1} | \theta_t) = P_{j,t} [1 + E(r_{j,t+1} | \theta_t)]$$

Where  $P_{j,t}$  is the security prices at time  $t$ ,  $E(P_{j,t+1} | \theta_t)$  is the expected price of security  $j$  at time  $t+1$ ,  $E(r_{j,t+1} | \theta_t)$  is the market's required expected rate of return for period  $t+1$  for security  $j$  and other securities of the same risk as security  $j$ , given  $\theta_t$ . Therefore if the actual price of security  $j$  in period  $t+1$ , that is  $P_{j,t+1}$  is greater than expected ( $E(P_{j,t+1})$ ) given information set  $\theta_t$ , then an investor in security  $j$  can earn an abnormal return since  $P_{j,t+1} > E(P_{j,t+1})$  given information set  $\theta_t$ . Abnormal return which is also interpreted as economic profit for period  $t+1$  may be defined as the difference between the realized return and the expected return given information set  $\theta_t$ . Earning abnormal return is a game of chance which is not expected to persist. Therefore, over time the average realized return is not different from the market adjusted return on security  $j$ .

The efficient market hypothesis has stimulated a lot of researches in finance and accounting literatures. It has equally attracted a wide range criticism from various quarters. As a result, Fama (1970) as cited in Pandey (2004), Olowe (1997), Oludoyi

(1997), Hendriksen (2001) categorized market efficiency into three namely: Weak form, Semi-strong form; and the Strong form.

The capital market efficiency theory is built on certain assumptions or what may be called the characteristics of efficient market. One of such assumptions is entry barrier. The implication of this assumption is that anyone can supply fund to the market and can equally demand for fund; everyone is free to deal with each other. It is also assumed that there are a large number of buyers and sellers such that no single individual can dominate or control the market. It follows that frequency and volume of trading is very crucial. Divisibility of financial asset is another key assumption. If financial assets are not divisible, it may not be affordable to some investors and as such willing and intending investors are disallowed. It may contribute to market inefficiency if certain investors cannot enter the market. The assumption of no transaction cost is fundamental to efficient market efficiency.

By this assumption, investors are expected to buy and sell securities and become liquid without loss in value. In other words, the cost of transaction should be absent. However, after a lot of criticism about the unrealistic nature of such assumption, Fama in 1976 reviewed it and calls for minimum cost as against absence of transaction cost (Olowe, 1997). Another important assumption is that there is no tax difference. Ideally, it is mentioned that there should be no tax distortion in the first place (Pandey, 2004). It means there should be uniformity in the levies across investors. An investor should not be favored at the expense of another investor. It is also assumed that information is freely available to all the investors. Information released into the capital market should not be available to few market participants but to all. Since the capital market is information driven, and insider trading should be avoided, therefore information should be made public and free-to-all investors.



Finally, all investors are expected to have homogenous expectations for the purpose of pricing security.

Moreover, some of the fundamental assumptions of the capital market efficiency theory are not obtainable in the Nigerian context. For instance, the assumption of free flow of information is highly impeded by the cap (price limit) imposed on security prices in the Nigerian market. This imposition has largely restricted how much of the information contained in the financial statements are reflected in the security prices. It is on this basis that the study examines the lag values of accounting numbers in explaining the variability in security prices as contained in chapter three (3). It is proposed that since security prices are only allowed to fluctuate between 10% upward and 10% downward then the variability in security price explained by accounting numbers is impeded. Following this, the study also proposes that certain proportions of previous years' information are still being reflected in security prices at period  $t$ .

Furthermore, the theory of efficient market hypothesis establishes a link between relevant information and market values. The theory stipulates that if there is new information released to the market, market values such as price and return would adjust accordingly, depending on whether it is a good news or bad news.

Therefore, the study proposes that financial statements information will cause a reaction in the market at the release of accounting number, such that investors would adjust their investment portfolios in response to the new information.

This study however is not any attempt to test the Nigerian Capital Market efficiency as undertaken by Olowe (1996) as cited in Olowe, (1997), Oludoyi (1997), and Oludoyi (2009); instead, this study focuses on the decision usefulness of financial statement information.

The limitation of this theory is that some of the assumptions upon which the theory is built are mostly realizable in the developed economies but are not operational in developing ones. Furthermore, event studies are concerned mainly with earnings and sometimes dividends at the neglect of other accounting figures. Therefore, in order to examine the decision usefulness of all the components of financial statements information the study employs the valuation theory.

### 2.3.3 Valuation Theory

Valuation theory which is sometimes referred to as residual income valuation model establishes relations between market values and accounting numbers. The development of this theory started with the work of Preinreich in (1938) as cited in Dumontier & Raffournier (2002), later the work of Edward and Bell 1961 (Oyerinde, 2011), and then the works of Ohlson, 1995, Felthman & Ohlson 1995. The work of Ohlson (1995) is an extension of the residual income valuation model proposed by Preinreich (1938) as cited in Dumontier & Raffournier (2002). In the residual income valuation model, market value (stock price) is defined as the present value of expected future dividend. When the clean surplus relation is imposed, market value is defined as book value plus the present value of the future abnormal earnings. It shows that, the residual income valuation theory (simply valuation theory) rests directly on two fundamental assumptions. First, market value is assumed to be equal the present value of expected future dividend payment (Nilsson, 2003; Ohlson, 1995). Thus, it is stated as:

$$P_t = \sum_{\tau=1}^{\infty} E_t \left[ \frac{d_{t+\tau}}{(1+r)^\tau} \right] \dots \dots \dots (1)$$

Where  $P_t$  is the stock price at period  $t$ ,  $d_{t+\tau}$  is the future dividend's payment,  $r$  equals the cost of equity capital which is assumed to be constant (Nilsson, 2003),  $E_t [ \ ]$  in

the above equation 1 is the expectation operator, conditional on available information at time  $t$  (Ohlson, 1995, Nilsson, 2003). Since the assumption of going concern holds, the future dividend payments approaches infinity  $\infty$ , and this is why  $\tau$  is from 1 to  $\infty$ ;  $\Sigma$  is the symbol for the summation of the present value of expected future dividend.

Second, it assumes that change in book value of equity is equal to reported earnings minus dividend payment. This is the clean surplus relation assumption. It is written as:

$$\Delta bv_t = x_t - d_t$$

$$\text{Alternatively, } bv_t = bv_{t-1} + x_t - d_t \dots \dots \dots (2)$$

Where  $bv_t$  is book value of equity (Total Assets minus total liabilities),  $x_t$  is the reported earnings at period  $t$ ,  $d_t$  is dividend paid or declared for payment in period  $t$ .

According to Nilsson (2003), it is also assumed that the book value grows at a rate less than the cost of capital,  $1 + r$ . He noted that:

$$(1 + r)^{-\tau} E_t[bv_{t+\tau}] \rightarrow 0, \tau \rightarrow \infty \dots \dots \dots (3)$$

Therefore, the combination of the two assumptions produces:

$$P_t = bv_t + \sum_{\tau=1}^{\infty} E_t \left[ \frac{x_{t+\tau} - rbv_{t+\tau-1}}{(1 + r)^\tau} \right] - E_t \left[ \frac{bv_{t+\infty}}{(1 + r)^\infty} \right] \dots \dots \dots (4)$$

Applying the condition in equation (3),  $E_t \left[ \frac{bv_{t+\infty}}{(1+r)^\infty} \right]$  is equal to zero.

Where  $x_t - rbv_{t-1}$  is referred to as abnormal earnings ( $x_t^a$ )

Abnormal earnings is the difference between reported earnings  $X_t$  and a capital charge obtained by multiplying the discount rate  $r$  with the book value at the beginning,  $bv_{t-1}$  (Dumontier & Raffournier, 2002)

Therefore applying the condition in equation 3 to equation 4 we have:

$$P_t = bv_t + \sum_{\tau=1}^{\infty} E_t \left[ \frac{x_{t+\tau}^a}{(1+r)^\tau} \right] \dots \dots \dots (5)$$

Ohlson (1995) introduced the third assumption saying that linear model structures the non-deterministic time series pattern of abnormal income. Ohlson imposes the autoregressive behavior on abnormal earnings (Dumontier & Raffournier, 2002) as:

$$x_{t+1}^a = \omega x_t^a + v_t + \varepsilon_{t+1} \dots \dots \dots (6)$$

$$v_{t+1} = \gamma v_t +$$

$$\zeta_{t+1} \dots \dots \dots (7)$$

Where  $v$  is information not incorporated in abnormal earnings,  $\omega$  is the persistence parameter of abnormal earnings,  $\gamma$  is the persistence parameter of the information not yet captured in earnings and  $\varepsilon_t$  and  $\zeta_t$  are error terms. According to Dumontier and Raffournier (2002), equation 6 posits that abnormal earning is a one-period-lagged autoregressive. They further state that equation 7 means that useful information not incorporated into the accounts shall be brought into earnings after another one period lagged autoregressive little by little. According to Dumontier and Raffournier (2002), bringing together the three (3) assumptions represented by equations 5, 6 and 7, it becomes:

$$P_t = bv_t + \alpha_1 x_t^a + \alpha_2 v_t \dots \dots \dots (8)$$

Where  $\alpha_1 = \omega / (1+r - \omega)$  and  $\alpha_2 = (1+r) / (1+r-\omega) (1+r-\gamma)$

However the empirical form of equation 8 is given as

$$P_t = \alpha_0 + \alpha_1 bv_t + \alpha_2 x_t + \mu_t \dots \dots \dots (9)$$

Where  $\alpha_1$  and  $\alpha_2$  are regression coefficients,  $\alpha_0$  is the intercept and  $\mu_t$  is the error term.

Furthermore, the return regression is the second model usually employed in measurement studies.

Therefore, according to Dumontier and Raffournier (2002), replacing  $x_t^a$  with  $[x_t - rbv_t]$ , applying the clean surplus relation, taking the difference and dividing both sides of the equation by Lag value of price,  $P_{t-1}$ , equation (8) can be restated as:

$$\begin{aligned} \frac{P_t - P_{t-1} + d_t}{P_{t-1}} &= (1 - ra_1) \frac{x_t}{P_{t-1}} + (1 + r)\alpha_1 \frac{x_t - x_{t-1}}{P_{t-1}} + (1 + r)\alpha_1 \frac{d_{t-1}}{P_{t-1}} \\ &+ a_2 \frac{v_t - v_{t-1}}{P_{t-1}} \dots (10) \end{aligned}$$

Finally, the empirical form of equation 10 is given as:

$$R_t = \beta_0 + \beta_1 \frac{x_t}{P_{t-1}} + \beta_2 \frac{\Delta x_t}{P_{t-1}} + \mu_t \dots \dots \dots (11)$$

The valuation theory as discussed above forms the foundation of the model specified in chapter three. It establishes the functional linear relationship between share price which is widely used in the literature in the place of return and accounting variables. It is on the basis of this theory that the study includes earning level, earnings change, dividends in the return and price regression in chapter three. Furthermore, based on the fundamental analysis view discussed under section 2.2.2 in chapter two (2) of this study, capital structure is included as one of the determinants of price in the regression models in chapter three (3). Finally, since the valuation model does not limit the variables that can enter the model; the study examines other accounting variables in addition which are not explicitly stated in the valuation model.

### 2.3.3.1 Measures of Decision Usefulness Using Valuation Model

Basically, the R-squared calculated from the regression analysis is used to measure whether the financial statements information captures information reflected in security prices. If the R-squared is low (R-square = 0), it is an indication of decision uselessness of financial statement information. Otherwise, if R-squared is high (R-

squared = 1), it implies a strong association. R-squared of 1 also indicate that investors value company using accounting information alone (Easton & Harris, 1991; Francis & Schipper, 1999; Lev & Zarowin, 1999; Beisland, 2010).

Furthermore, the coefficient of the regression model measures the partial effect of each variable in explaining the variability in security prices. If the coefficient of a variable is significant that is, probability value is less than 5% significance level; it means the variable is decision useful, otherwise such variable is not decision useful.

#### **2.3.4 Information and Communication Theory**

Similar to the capital market efficiency theory, information theory according to Lev (1989) states that: a publication is informative if such publication prompts actions. Financial statement information is decision useful if its coefficient is significant. It shows that the variable contributes to movements in the stock price. R-squared is used as measure of the decision usefulness. It measures the strength of association between market values and accounting data depending on its magnitude. It follows that the moment accounting variables are statistically significant; it means investors use such information in their decision process. Stated differently, the model specified in chapter three (3) does not only show the ability of financial statement information to capture or summarize information reflected in stock prices, instead it also shows that investors use financial statement information for decision making.

#### **2.3.5 Signaling Theory**

Information asymmetry is a key issue in earnings quality literature. It occurs when management solely possesses information about the future performance of its firm at the expense of investors, analysts, and other users (Ruch & Taylor, 2015). Usually, managements are better informed about the economic risk associated with their firms and the growth potentials of the firm. Ideally, management is expected to fully disclose all information that would aid investors in assessing risk inherent in the firm

and the future performance of the firm but in practice, such vital information are kept from users. This is common whenever the compensation of management is tied to financial targets such as earnings. In this case, management has incentive to hide information on losses, understate expenses, and overstate revenues so as to meet the earnings target set for it.

However, in an efficient market, no market participant can trade on insider information to consistently outperform the market. Therefore, when earnings are announced, investors and analysts can easily assess the future performance of firms; hence information asymmetry is alleviated. Nevertheless, the influence of earnings and dividends announcements on the future performance of firms, and firms' value is an ongoing debate in both finance and accounting literatures. In 1961, Miller & Modigliani as cited in AL-Qudah & Badawi, 2014 proposed the signaling hypothesis. The hypothesis holds that increased dividend announcement conveys vital information about the ability of firm to achieve improved performance in the future. The hypothesis also states that share price reacts positively to increased dividend announcements. Signaling hypothesis was further expanded to include information conveyed by earnings announcement (AL-Qudah & Badawi, 2014). The validity of this theory has been examined by previous studies and mixed results were reported. For instance, Kato, Leowenstein, and Tsay (2002) as cited in Queiri, Dwaikat and Yelwa (2014) found a positive relationship between increased dividend announcements and share price. Others are Waweru, Pokhariyal and Mwaura (2012). The positive relationship was attributed to investors' expectation of improved future performance. Contrarily, other attributed the positive relationship between increased dividend announcement and share price to other reasons other than future earnings potentials (Viera & Raposo, 2007 as cited in AL-Qudah & Badawi, 2014). Finally, one of the objectives of this study is to determine the information content of earnings

by examining the nexus between earnings and share price. Therefore, this theory is relevant to this study since it establishes a link between earnings information and share price.

In summary, this study evaluates the usefulness of statements of financial in relation to the information it provides for investors for investment decision. Therefore, this study is built on the following theories: decision usefulness theory; capital market efficiency theory; information and communication theory; valuation theory; and signaling theory.

## **2.4 Empirical Review**

There are many research studies carried out in this field of study in the developed markets (for example US & UK), and emerging markets such as Nigeria; however, the results are mixed and inconclusive (Dandago & Hassan, 2013). Some studies provide that financial statements usefulness is lost (Lev & Zarowin, 1999; Mlonzi, Kruger, & Nthoesane, 2011; Balachandran & Mohanram, 2011 as cited in Ruch & Taylor, 2015), while others provide evidence that financial statement is not only useful for stewardship, contracting, management compensation, but also for investment decision (Ball & Brown, 1968; Foster, 1973; Easton & Harris, 1991; Collins, Maydew & Weiss, 1997; Beest, Braam, & Boelen, 2009; Filip & Raffournier, 2010; Oyerinde, 2009; Oyerinde, 2011, Elshandidy, 2014; Omokhudu & Ibadin, 2015; Chebaane & Othman, 2014; Iddon, Hettihewa, & Wright, 2015).

Beginning with the work of Ball and Brown (1968), the impact of earnings announcement on share price movements was examined. It was found that accounting numbers have information content supplied to capital market using US data. Information supplied relative to other information sources was equally examined (Ball & Shivakumar, 2008). They found that accounting earnings captured



more than half of the total information supplied by the various sources. However, accounting number is not rated high in terms of timeliness. The lack of timeliness may be accounted for by the lag of days between the fiscal year end and when the financial statement is made public. Therefore, in order to overcome this, the frequency of reporting was increased to quarterly reporting. In contrast, Butler, Kraft, and Weiss (2007) reported that there is little difference in timeliness between firms reporting quarterly and those reporting annually. Furthermore, Beaver (1968) also examined the information content of annual earnings announcements. He achieved this objective by observing the reactions of earnings announcements on volume of shares traded. The key thing that differentiates his work from the work of Ball and Brown (1968) is that volume was observed instead of share price. It was found that reported earnings are direct sources of information considered by investors. Moreover, despite the findings of Ball and Brown (1968) that accounting numbers are not timely, Beaver (1968) found that other information sources apart from earnings do not entirely pre-empt earnings information. The summary of the findings show that earnings announcements have information content (Barth, Landsman, Raval, & Wang, 2014; Menike & Man, 2013).

In the same vein, Francis, Schipper, and Vincent (2002) evaluated earning announcement relative to other competing information. They suggested that financial analysts' reports do not substitute earnings report announcement. They further suggest that competing information do not reduce the usefulness of earnings announcements. They also found evidence of increased aggregate reaction to both information sources (earnings and analysts' reports). Also, Francis et al. (2004) examined the relevance of earnings attributes in predicting cost of equity. They proposed that earnings variability has influence on cost of equity. It was suggested

that firms with low favorable value of earnings attributes have larger cost of capital than firms with high favorable value of earnings attributes. The findings of Francis et al (2004) therefore establish the fact that financial statements information provides useful information investors. Rotila (2009) investigated if financial statements serve as basis for assessing the financial performance from the investors' perspective by means of prospectively oriented indicators. It was found that historical cost based financial statements contain information about future earnings and future earnings potentiality.

Similarly, Pervan and Bartulovic (2014) examined whether or not accounting information is value relevant (decision usefulness) for South Eastern European countries. The study found that accounting information is decision useful. This finding by Pervan and Bartulovic (2014) is similar to the findings of Board and Day (1989); Brown, Lo, and Lys (1999); Perera and Thrikawala (2010); and Khanagha (2011). Pervan and Bartulovic (2014) also found that book value provides more useful information for investment decision than earnings. In contrast, Karunarathne and Rajapakse (2010) found that earnings are more decision useful than book value of equity which shows the supremacy of income statements over statement of financial position in terms of relevance. Similarly, Vafeas, Trigeorgis, and Georgiou (1998); Shubita (2013); Camodeca, Almici & Brivio (2014); Park and Shin (2015); Folsom, Hribar, Mengenthaler & Peterson (2016) noted that income statement and financial position statement both provide useful information for investment decision more than cash flow statements. On the other hand, Artikis and Papanastasopoulos (2016) revealed that cash flows from operation are more persistent than accrual earnings. If accounting information is persistent, it contributes to the information predictability and consequently the decision usefulness of accounting information.

Basu (1997) examined the differential timeliness between positive and negative earnings caused by the application of accounting conservatism in financial reporting; and the findings showed that the investors responds more to positive earnings than negative earnings.

Furthermore, the introduction of IFRS for improved and harmonized financial reporting stimulated a lot of research works. As a result, Beest, Braam and Boelens (2009) examined the quality of financial report by measuring fundamental and enhancing qualitative characteristics of useful financial information. They found that IFRS based financial statements are more decision useful (value relevant) than financial statement prepared under US GAAP. Similarly, Sun, Cahan and Emmanuel (2011); Kargin (2013); Umoren and Enang (2015) examined whether post – IFRS adoption, there is increase in the relevance of accounting information. It was found that decision usefulness of book values improved post IFRS adoption but no such evidence for earnings. Elshandidy (2014) also found similar result. Badenhorst, Brummer and Johannes (2015) examined how the required element of disclosed summarized financial information of listed associates provides information required by investors in valuing investment in listed associates. The study reveals that individual elements of summarized disclosures are sometimes incrementally value relevant, but that as a group, elements have the greatest incremental value relevance.

However, despite evidences showing that financial statement was decision useful, others reported the contrary. For instance, Holthausen and Watts (2001) provide a critical evaluation of such evidence. They pointed out that reported  $R^2$  in some studies should be interpreted with caution because its values are not unconnected to econometric flaws (Dontoh, Radhakrishnan, & Ronen, 2004). Some of these flaws are attributable to the violation of assumptions classical linear regression models.

Others are attributable to the use of inappropriate deflators, scale effects, noise, and measurement errors. Akbar and Stark (2003) attempted to resolve the issues of scale effect in market-based accounting research. They mentioned that the observed decline in the usefulness of financial statement information has been attributed by some studies to scale (heteroscedasticity) effect and hence, the quest for how to control for it. Therefore Akbar & Stark (2003) attempted to resolve the issue by testing if number of shares, and market value could control for scale effect. Easton and Sommer (2003) also in the quest to control for scale effect, tested if market capitalization could be the way out as against the market value and number of shares tested by Akbar and Stark (2003). Therefore, after correcting for these fundamental econometric violations, scale effects, and measurement errors, most of the studies which reported high  $R^2$  may eventually report low  $R^2$ .

Furthermore, Lev and Zarowin (1999) examined earning level, earning change, book value for the return regression where the earning change was used to measure the surprise element in reported earnings. Besides, they separated earnings into cash flow component and the accrual components. This was done to examine the partial effect of cash flow and accrual on the information reflected in the stock price. They believed that cash flow is less affected by questionable accounting rules. Amir and Lev (1996) reported that financial accounting information is not decision useful for technology based industries. Collins et al. (1994) examined lack of timeliness and noise as explanation for the low contemporaneous return-earning association. The results show that earnings do not capture the information reflected in stock prices in a timely manner.

It is noted that untimely information is unlikely to meet investors' information needs. Collins, Maydew and Weiss (1997) partly reported that earnings as explanatory

variable has decreased overtime. Mlonzi et al. (2011) similar to the work of Ball and Shivakumar (2008) computed a cumulative average abnormal return to assess price reaction to earnings announcement and consequently the test of market efficiency. Ball and Shivakumar (2008) reported that earnings announcement only provides modest additional information to the information already impounded in security prices.

Evidences from developed economies dominate the literature in this field. However, some evidences are recorded in the developing economies. For instance, Hellstrom (2005) suspected a non-linear functional relationship between price, return and accounting numbers (earning) and as a result estimated a logarithmic price and return regression. It was found that the usefulness of accounting numbers is lower in emerging market (the case of Czech) than in developed markets (the case of Sweden).

In particular, there are evidences which also emanate from the Nigerian economy which provide support that accounting information is useful (Olugbenga & Atanda, 2014; Ejubekpokpo & Edesiri, 2014; Modugu & Ohonba, 2014; Omokhudu & Ibadin, 2015). Furthermore, Oludoyi (1997, 2009) attempted to test the Nigerian capital market efficiency through the instrumentality of earnings announcements. He used the martingale, sub-martingale and Box Jenkins expectation models to compute investors' expectation. He also computed a Cumulative Abnormal Return (CAR) and tested for its significance to see whether an abnormal return is observed around events window and if it drifts for a longtime. The result reveals that earnings have information content. The result also shows that the Nigerian capital market is conditionally efficient at the semi strong. However, the limitation of the works of Oludoyi (1997, 2009) is that it focused only on earnings meanwhile other

components of the financial statement contain as much information as earnings; hence, several other variables were examined. Fagbemi and Uadiale (2011) reported that firm's size, and international affiliations are some of the factors affecting timeliness of financial reports. Furthermore, Oyerinde (2011) found that accounting variables examined were value-relevant. Iyoha (2011) reported that the reliability of annual accounts is a function of profitability.

However, others provide evidences to the contrary. Baffa, Mohammed and Abdulkadir (2014) reported no evidence of significant upward movement in the relevance of annual accounts post-IFRS adoption. Similarly, Abubakar (2012) reported that accounting information is not value relevant. Felix and Rebecca (2015) reported that the decline in stock return may be attributable to disclosure credibility. However, the evidences reported from Nigeria should be interpreted with caution because they failed to account for the uniqueness of the Nigerian Stock Market which this study accounted for. Other studies includes: Uwalomwa, Olowe, and Agu (2012); Onalo, Lizam, Kaseri and Usman (2015); Abubakar and Abubakar (2015).

Finally, the influence of conservatism principle on the relevance of annual accounts is mixed and inconclusive (Xie, 2015). Chen, Folsom, Paek and Sami (2014) revealed that the earnings of firms that highly apply conservatism are less persistent relative to firms that less applies conservatism. Similarly, Bandyopadhyay, Chen, Huang, and Jha (2010) revealed that the more firms apply accounting conservatism in the preparation of accounts the less the decision usefulness of earnings. On the contrary, Kordlouie, Mohammadi, Naghahineh and Tozandejani (2014); Osundina & Olayinka (2017), posit that accounting conservatism has positive influence on the usefulness of financial reports for investment decisions amongst other things.

### **2.4.1 Summary of Research Gap**

The review of past studies to the best of the knowledge of the researcher reveals that the variables examined in this field (association studies) in Nigeria are restricted to earnings, net assets, dividend, cash flow from operation, dividend cover, return on assets, dividend payout, leverage, annual return, IFRS adoption (Dummy variable), IFRS dummy interacted with EPS, IFRS adoption interacted with BV, size (log of total assets), any yield, return on equity, negative earnings (Dummy), industry (dummy), earning change, inflation adjusted earning, brand cost adjusted earnings, and brand assets value. This study however intends to test all the theoretical variables and equally extend the frontier of works carried out in this area in Nigeria.

Therefore, following the works of Edwards and Bell (1961); Ohlson (1995); Easton and Harris (1991); Francis and Schipper (1999); Hellstrom (2005); Grossman and Stiglitz (1980); Gjerde, Knivsfla and Sættem (2011); Kargin (2013); Akbar (2003); Beisland (2010); Amir and Lev (1996), Bernard and Thomas (1990), the study split earning into its cash flow and accrual components. The purpose is to separate the portion of total earning that is affected by accounting rules from the part that is less affected by accounting rules. The separation affords investor chance to understand the cash flow effect of their investment that is contained in the earning figure; hence, this is the first gap filled by this study.

Second, based on the work of Grossman and Stiglitz (1980) where it was shown that when arbitrage is costly, the assumption of market information efficiency is not always achieved (Dumontier & Raffournier, 2002). Consequently, they demonstrated that it is impossible for prices to perfectly reflect all publicly available information in any market. The work of Bernard and Thomas (1990) provides similar evidence. Therefore, this study examines the relation between the previous years' values of

accounting variables and current year value of shares which was not handled by past studies.

Third, one of the unique characteristics of emerging market is that price is regulated by imposing a limit (cap) above or below which stock prices cannot rise or fall per trading day. The Nigerian market imposition is currently passed at  $\pm 10\%$  (NSE rule book, 2015). This restriction has serious implications on the extent to which financial statement information can be allowed to influence share prices and stock returns. Besides, Oludoyi (2009) documents that the Nigerian capital market exhibits post earnings announcement drifts up to ten (10) weeks which negates capital market efficiency theory. It means the assumption of market efficiency does not hold for the Nigeria market. Adelegan (2009) also deduced that the Nigerian market is not efficient at the semi-strong form. The conclusion was hinged on the evidence of post dividends announcement drift which lasted for over thirty (30) days. It also negates the assumptions of capital market efficiency which states that new information is almost instantaneously incorporated into share price. It shows that the state of the Nigerian Stock Market in terms of its efficiency is inconclusive. The issue is that, it is difficult in Nigeria for all investors to have access to published statement almost the same time due to the problem of infrastructures. Therefore, this study proposes that current year's information as contained in the current financial statement has implication on security prices at least the following year. As a result, the study accounts for the impact of previous years' information on the current year share prices of firms.

Fourth, the study examines the relation between research and development cost, human capital and market values. Literature reveals that research and development cost, intellectual asset of firm convey relevant information to investors (Akbar &



Stark, 2003). Fifth, capital structure is one of the determinants of the intrinsic value of securities as established by the fundamental analysis approach to value relevance studies. There are limited studies which have examined this variable.

Finally, non-financial information is an important component of capital market information stream. However, previous works failed to examine the impact of certain non-financial information such as business model, operating environment, management efficiency, industry information, and economy information on share price of firms.

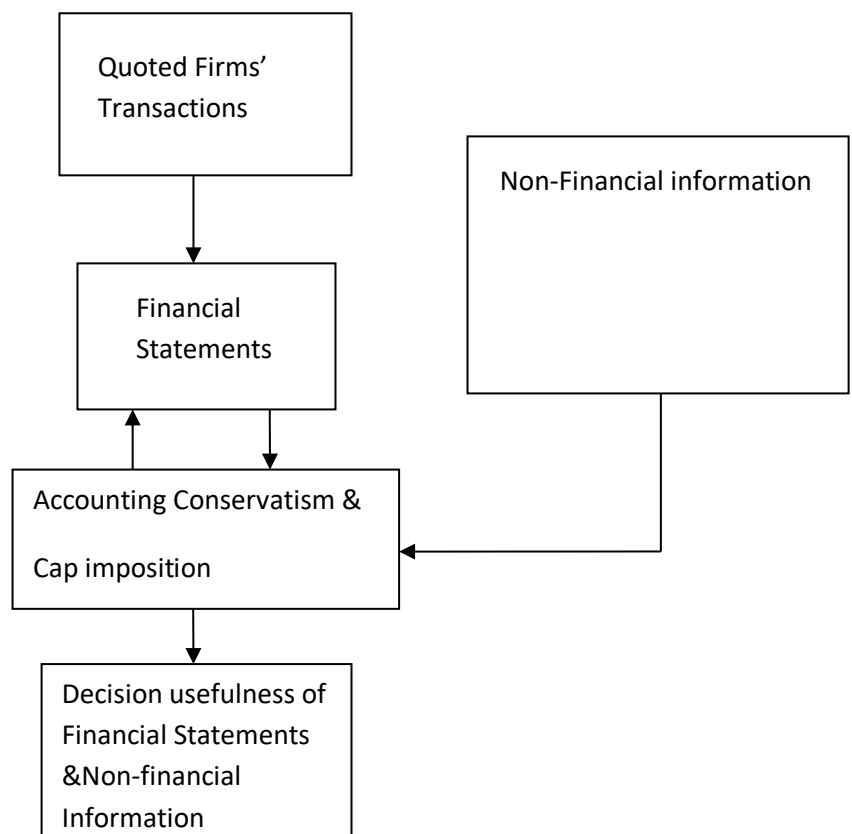
In conclusion, this chapter provides a review of conceptual, theoretical, and empirical issues relating to the study. However, there remain unanswered questions as identified in the gap earlier discussed which this study addressed.

#### **2.4.2 Description of Analytical Framework Designed for the Study**

Figure 2.1 explains the link between financial statements information, interactive effect of cap imposition, interactive effect of accounting conservatism, non-financial information and share prices of firms. There are claims that the financial statements information is not useful for investment purposes. These claims are supported mainly by evidences from developed economies. This has created a gap to be filled by empirical evidences from developing economies, Nigeria especially. Past researches which have attempted to fill this gap failed to account for the impact cap imposition, accounting conservatism, R&D cost, human capital information, non-financial information on the relevance of statements of financials; hence, this addressed this gap. Figure 2.1 shows that there is a link between financial statement produced by quoted firms, interactive effect of cap imposition, interactive effect of accounting conservatism, non-financial information and share prices of firms. The figure 2.1 demonstrated that business transactions are obtained from source documents and

processed into a report in form of financial statement. Thus, the financial statements information are expected to impart largely on share prices but due to the application of accounting conservatism and cap imposition on share prices, the degree of such impact is moderated. This is why it is shown on figure 2.1 that cap imposition on share prices and accounting conservatism stand between financial statement and share prices. Finally, the link established in Figure 2.1 is underpinned by valuation theory, decision usefulness theory, capital market efficiency theory, signaling theory, and information and communication theory. The analytical model is built on the assumptions that investors are rational in making investment decisions.

**FIGURE 2.1: Analytical Framework**



**Source:** Author (2016). Designed for the study

## CHAPTER THREE

### METHODOLOGY

#### 3.1 Model Specification

Valuation theory developed by Preinreich in (1938) as cited in Dumontier & Raffournier (2002), Edward and Bell 1961, Ohlson 1995, and Felthman and Ohlson 1995 established a formal link between market values and accounting numbers. The valuation models have two variants which are commonly used in association (measurement) studies: price regression and return regression. The efficient market theory provides the basis for the association between earnings announcement and market price, and return reaction. For the measurement studies, the theoretical form of the price regression model is given as:

$$P_{j,t} = b_{j,t} + \alpha_{1j} \chi^a_{j,t} + \alpha_{2j} v_{j,t} \dots \dots \dots (1)$$

Where  $\alpha_{1j} = \omega_j / (1 + \rho - \omega_j)(1 + \rho - \gamma_j)$ , and  $\alpha_{2j} = (1 + \rho) / (1 + \rho - \omega_j)(1 + \rho - \gamma_j)$ ,  $b_{j,t}$  is book value for share j at time t,  $\chi^a_{j,t}$  is abnormal earnings of security j for period t,  $v_{j,t}$  is information not incorporated in abnormal earnings,  $\omega$  is the persistence parameter,  $\rho$  is discount rate,  $\gamma$  is the persistence parameter of the information not yet captured in earnings. As shown in chapter two, equation (1) is not amenable to empirical analysis. However, the empirical form is given by the following relation:

$$P_{jit} = \alpha_0 + \alpha_1 b_{j,t} + \alpha_2 x_{j,t} + u_{j,t} \dots \dots \dots (2)$$

Where  $\alpha_0$  is the intercept,  $\alpha_1$  and  $\alpha_2$  are regression coefficients,  $b_{j,t}$  is book value for share j at time t,  $x_{j,t}$  is earnings of share j for time t.

Referring to equation 11 in chapter 2, the empirical form of return regression is given as:

$$R_{j,t} = \beta_0 + \beta_1 x_{j,t}/P_{j,t-1} + \beta_2 \Delta x_{j,t}/P_{j,t-1} + U_{j,t} \dots \dots \dots (3)$$

In a practical sense, the basic valuation models (Price and Return Regress) are given below but only the price regression:

$$P_{jit} = \alpha_0 + \alpha_1 x_{j,t} + \alpha_2 b_{j,t} + U_{jit} \dots\dots\dots (4)$$

$$R_{j,t} = \beta_0 + \beta_1 x_{j,t} + \beta_2 \Delta x_{j,t} + U_{j,t} \dots\dots\dots (5)$$

Since accounting numbers as defined by the valuation theory are not limited to earnings, change in earning, and book value of equity, researchers have attempted to examine the impact of other accounting variables. Therefore, following the works of Easton and Harris (1991); Akbar (2013); Amir and Lev (1996); Lev and Zarowin (1999); Francis and Schipper (1999), the model of this study is specified as:

**Model 1: Share Price and Accounting Variables at Level (current values)**

$$P_{j,t} = \alpha_0 + \alpha_1 EPSSQD_{j,t} + \alpha_2 dividendpayout_{j,t} + \alpha_3 nonfin_{j,t} + \alpha_4 earningsgrowth_{j,t} + \alpha_5 potentialreturn_{j,t} + \alpha_6 cars_{j,t} + \alpha_7 dummylosses_{j,t} + \alpha_8 accrualearn_{j,t} + \alpha_9 roe_{j,t} + \alpha_{10} dividendcover_{j,t} + \alpha_{11} dps_{j,t} + \alpha_{12} rd_{j,t} + \alpha_{13} humancap_{j,t} + \alpha_{14} tassets_{j,t} + \alpha_{15} tliab_{j,t} + \alpha_{16} equityvalue_{j,t} + \alpha_{17} bookvalue_{j,t} + \alpha_{18} capstruct_{j,t} + \alpha_{19} cfo_{j,t} + \alpha_{20} cfi_{j,t} + \alpha_{21} cff_{j,t} + \alpha_{22} CapImpEPS_{j,t} + \alpha_{23} EPSCONSERVATISM_{j,t} + \alpha_{24} dummyifrs_{j,t} + U_{j,t}$$

Where  $P_{j,t}$  is price of security, EPSSQD is earnings squared, dividendpayout is dividend payout, nonfin is non-financial information, earningsgrowth is earnings growth, potentialreturn is potential return, cars is current actual return on shareholders' investment, dummylosses is dummy losses, accrualearn is accrual earnings, roe is return on equity, dividendcover is dividend cover, dps is dividend per share, rd is research and development cost, humancap is human capital, tassets stands for total assets, tliab stands for total liabilities, equityvalue means value of equity, bookvalue is book value of equity, capstruct is capital structure, cfo is cash flow from operation, cfi is cash flow from investing activities, cff is cash flow from financing activities, CapImpEPS is the interaction between cap imposed on price and earnings, EPSCONSERVATISM is the interaction between earnings and

conservatism, dummyifrs is Dummy for IFRS adoption (1 after adoption, 0 before adoption),  $\alpha_0$  represents intercept of the model,  $\alpha_1$  to  $\alpha_{24}$  are regression coefficients while  $U_{j,t}$  is the panel error term.

### ***A-priori Expectation***

This is the expected sign of the coefficient of each variable in the model. Based on the established relationship between market values and accounting variables as specified by valuation theory, decision usefulness theory, and past empirical evidences; this study expects that all the accounting variables included in the model have significant influence on the dependent variable (share price). In other words,  $\alpha_1$  to  $\alpha_{24}$  is significantly greater than zero such that the probability value of each coefficient is expected to be less than the significance level of 1%, 5%, or 10%

### **Model 2: Share Price and Lagged Values of Accounting Variables**

$$P_{j,t} = \alpha_0 + \alpha_1 \text{eps}_{j,t-1} + \alpha_2 \text{eps}_{j,t-2} + \alpha_3 \text{eps}_{j,t-3} + \alpha_4 \text{bookvalue}_{j,t-1} + \alpha_5 \text{bookvalue}_{j,t-2} + \alpha_6 \text{bookvalue}_{j,t-3} + \alpha_7 \text{dps}_{j,t-1} + \alpha_8 \text{dps}_{j,t-2} + \alpha_9 \text{dps}_{j,t-3} + \alpha_{10} \text{cfo}_{j,t-1} + \alpha_{11} \text{cfo}_{j,t-2} + \alpha_{12} \text{cfo}_{j,t-3} + \alpha_{13} \text{cfi}_{j,t-1} + \alpha_{14} \text{cfi}_{j,t-2} + \alpha_{15} \text{cfi}_{j,t-3} + \alpha_{16} \text{cff}_{j,t-1} + \alpha_{17} \text{cff}_{j,t-2} + \alpha_{18} \text{cff}_{j,t-3} + \alpha_{19} \text{capstruct}_{j,t-1} + \alpha_{20} \text{capstruct}_{j,t-2} + \alpha_{21} \text{capstruct}_{j,t-3} + \alpha_{22} \text{tassets}_{j,t-1} + \alpha_{23} \text{tassets}_{j,t-2} + \alpha_{24} \text{tassets}_{j,t-3} + \alpha_{25} \text{tliab}_{j,t-1} + \alpha_{26} \text{tliab}_{j,t-2} + \alpha_{27} \text{tliab}_{j,t-3} + U_{j,t}$$

Where  $\text{eps}_{j,t-1}$  to  $\text{eps}_{j,t-3}$  is aggregate earnings up to 3 years lag,  $\text{bookvalue}_{j,t-1}$  to  $\text{bookvalue}_{j,t-3}$  is the lag of Book Value up to year 3,  $\text{dps}_{j,t-1}$  to  $\text{dps}_{j,t-3}$  is the lag of Dividend per share up to year 3,  $\text{cfo}_{j,t-1}$  to  $\text{cfo}_{j,t-3}$  is a three year lag of Cash Flows from operation,  $\text{cfi}_{j,t-1}$  to  $\text{cfi}_{j,t-3}$  is a three year lag of cash flows from investing activities,  $\text{cff}_{j,t-1}$  to  $\text{cff}_{j,t-3}$  is a three year lag of cash flow from financing activities,  $\text{capstruct}_{j,t-1}$  to  $\text{capstruct}_{j,t-3}$  is three lags of capital structure,  $\text{tassets}_{j,t-1}$  to  $\text{tasset}_{j,t-3}$  is three lags of total assets,  $\text{tliab}_{j,t-1}$  to  $\text{tliab}_{j,t-3}$  is three lags of total liabilities.  $\alpha_0$

represents intercept of the model,  $\alpha_1$  to  $\alpha_{27}$  are regression coefficients,  $U_{j,t}$  is the panel error term.

### ***A-priori Expectation***

Based on valuation theory, decision usefulness theory, and past evidences, the study expects that all the lagged variables included in the model have significant influence on the dependent variable (share price). In other words,  $\alpha_1$  to  $\alpha_{27}$  is significantly greater than zero such that the probability value of each coefficient is expected to be less than the significance level of 1%, 5%, or 10%.

### **3.2 Estimation Techniques**

Panel regression models were specified and estimated in this study. The Hausman test was carried out to choose the most suitable estimation technique between the random effect (between estimators) and fixed effect (within estimator). The result of the Hausman test showed that the individual characteristic of firms was significant but non-random; hence the models were estimated using the fixed effect estimation technique. Pool-ability was conducted to see whether the panel data could be pooled by assuming that the sampled firms over the period covered exhibited homogeneity. The result showed that homogeneity within the panel data could not be assumed; hence, the Pooled Ordinary Least Square technique could not be used. Furthermore, the diagnostic tests conducted showed that there were problems of panel autocorrelation, hetero-scedasticity, and non-normality; and as a result, the fixed effect with Driscoll-kraay standard errors was used. The t-test statistics and F-test statistics were used for hypotheses testing and the fitness of the models respectively.

In other to estimate the yearly cross-sectional models, the Ordinary Least Square method with robust standard error was used. This method takes care of the problem of heteroscedasticity which is one of the violations of the basic assumptions of the Ordinary Least Square (OLS) estimation technique. Since the firms examined

in this study are in different sizes with respect to the variables under study, there is tendency of large variance across firms. The OLS estimator was not best in that case although, it was unbiased; hence, the need for ordinary least square with robust standard error.

### **3.3 Research Design**

This work examines the usefulness of financial statement information in terms of investors' decision using the measurement approach. Using the measurement view, the study assesses the ability of accounting numbers to capture or summarize the information reflected in security prices. In a practical sense, it measures the relationship/association between accounting variables and share prices. Furthermore, the secondary source of data was employed and samples were selected using the stratified sampling technique and also the data collected was analyzed using the panel regression. Therefore, the study employs quantitative research design which is suitable especially when a study uses secondary data source and quantitative data analysis techniques.

### **3.4 Population and Sampling Procedure**

At the end of 2015, there were 264 securities quoted on the Nigerian Stock Market comprising 190 equities, 67 bonds, and 7 exchange traded products. Since this study concerns the decision usefulness of financial statements as it affects equity investors' decision, only the quoted equities were considered. However, the one hundred and ninety (190) quoted firms were not all suitable for this study because the firms included in the study must be listed not later than 1996 and continued to be listed up to 2015; year 1996 to 2015 being the period covered by the study. Consequently, a sampling frame was generated which was made up of eighty six (86) quoted firms using the criteria earlier discussed; hence, the population is eighty six (86) firms. Since the listed firms on the Nigerian Stock Exchange as at the end of year 2015

spanned through eleven (11) sectors which include Agriculture, Conglomerates, Construction/ Real Estate, Consumers Goods, Financial services, Health Care, Information & Communication Technology, Industrial Goods, Natural Resources, Oil & Gas, and Services, the stratified sampling technique was employed.

Out of the practical population of eighty (86) firms, using the formula developed by Yemane (1973) cited in Olawepo, Bello, and Olaniyi (2014), the sample size was forty six (46) firms at 10% margin of error and the list of companies are contained in appendix 5. The formula for calculating the sample size is given as  $n = N / [1 + N (e)^2]$ , where 'n' is the calculated sample size, 'N' is the population, and 'e' represents the margin of error.

### **3.5 Sources of Data**

The secondary information sources were used in this study and basically, two data sets were required. The first data set include data for accounting variables used. They include earnings, book value, cash flows, dividend, total assets, total liabilities, R & D cost, and human capital. These data was obtained from the audited financial statement of firms included in the sample. The second set consists of data on share prices of firms which was obtained from the Nigerian Stock Exchange's facts books of various years.

### **3.6 Variable Measurement**

Variables may be defined and obtained in different ways, depending on the operational definition of the variables and the research objectives. This section therefore provides brief explanation on the procedure for obtaining data.

#### ***Security Price***

This is the market price of shares of quoted firms that constitute the sample of this study. It is the dependent variable for model 1 and model 2; and it is the closing price ( $P_{j,t}$ ) of shares of firms, four (4) months after the fiscal year end. Where the last



trading day of the fourth month following the fiscal year end was a weekend or a public holiday, the closing price of the next trading day was used. The purpose of choosing the four months' price after the fiscal year end is to allow the audited financial statement (AFS) information released to be fully incorporated into the share price. This information was obtained from the daily listing of firm's security on the Stock Exchange.

### ***Aggregated Earnings***

This is the reported profit that was obtained from the income statements of firms at the fiscal year end usually referred to as the profit for the year.

### ***Book Value of Equity***

The difference between share price and net assets is usually attributable to the effect of applying accounting rules of conservatism, historical cost, and realization principle in the measurement of accounting figures. The difference is also attributable to the effect of information from other sources released into the market not captured by the accounting systems. As a result, book value is measured as shareholders' equity plus reserves. Alternatively, it is total asset minus total liabilities of firms at any point in time. The information about book value of firm was obtained from statements of financial position of period t.

### ***Accrual Earnings***

This is part of aggregate earnings that is strictly prepared under the accrual accounting models. It is obtained as the difference between earnings and cash flow from operations. Algebraically,  $\text{accrual earning} = \text{Aggregate earning} - \text{cash flow from operation}$ .

### ***Cash flow from Operation***

This is the earnings from cash operation and it is difference between aggregate earnings and accrual earnings. Since cash flow from operation is a component part of the cash flow statements, it was obtained directly from the cash flow statements.

### ***Cash flow from Investing Activities***

It was obtained under the heading “Investing activities”. It is the balance of cash inflows and cash outflow at the fiscal year end for investing activities

### ***Cash flow from financing Activities***

The value was obtained directly from the cash flow statements under the heading; financing activities and it is the balance after cash outflow is deducted from cash inflow on financing activities at the fiscal year end.

### ***Total Assets***

This information was obtained from the financial position statement which is all the sum of all assets. It provides information on the ability of firms to generate income from their assets base. Investors are interested in the size of firms’ assets because it shows the earnings generating potentials of firms.

### ***Total Liabilities***

The value of total liabilities is the sum of all liabilities.

### ***DIFRS Adoption***

The year of first adoption of IFRS for quoted firms in Nigeria was 2012 and as a result, a dummy variable was created for the measurement of the adoption of IFRS by Nigerian firms. The variable is assigned 0 for year 2011 and below while it was assigned 1 for 2012 to 2015.

### ***Lagged Values***

This is the previous years' values up to four (4) years backward of earnings, book value, cash flow (from operation), dividend, and human capital, and research and development costs.

### ***Negative Earnings***

Negative earnings in this sense represent losses sustained by firms included in the study. Negative earnings have the capacity to influence the size of R squared (measure of decision usefulness) (Filip & Raffournier, 2010; Oyerinde, 2011). As a result, dummy variable was created to account for its influence on the decision usefulness measure.

### ***Research and Development costs***

Depending on the accounting treatment of this item by firms, if it is written off in the year incurred, the information was obtained from statement of income under expenses. If the practice is to capitalize the cost for amortization over the expected life, the study shall not use the annual amortized cost but the capitalized value at the year end and the change in R &D costs between period t and period t-1.

### ***Imposed Cap on Share Prices***

The Nigerian Stock Market is regulated such that price cap are imposed by the authorities of both Nigeria Stock Exchange and the Security and Exchange Commission on share prices. The origin of this practice is unknown but it was before the year 1995. From the periods before 1995 to 2015, there were six (6) different regimes of cap imposition. The period before 1995 was 10 kobo while in the year 1995 it was raised to 20 kobo. In 1996 it was 5% and it remained unchanged till year 2008 when differential rate of 1% minimum and 5% maximum but toward the end of 2008 a single limit was maintained at 5% for both sides. However, in the year 2012 it was reviewed to 10% and it remained 10% up to year 2015.

### ***Human Capital***

This was the sum of all labor related costs.

### ***Dividend Cover***

This ratio measures the number of times dividend declared is guaranteed by earnings. This information may cause a revision in market expectation and consequently the pricing of the firm's security. It is measured as earnings per share divided by dividend per share which is EPS/DPS.

### ***Earnings Growth Potential***

According to Pandey (2005), the growth potential of a firm is the continued potential of a firm to increasingly generate earnings and consequently cash flow in the future. It is the market price divided by earnings. It is the quotient of price-earnings.

### ***Capital Structure***

This is the proportion of capital mix between equity share capital and debt. Information about the capital structure was obtained from the financial statement of firms.

### ***Potential Return on Shareholder Investments***

The proxy for measuring the potential return on shareholders' investments the earnings yield. If the potential return of a firm is high, investors are motivated to invest their wealth in the security of such firm but if not they may not be motivated to invest in the security of such firm. This is computed as: earnings per share divided by share price which is EPS/MPPS.

### ***Current Actual Return on Shareholders' Investments***

It is measured using the dividend yield. This is the current actual return on shareholders' investments and it is measured as dividend per share divided by market price per share which is DPS/MPPS. Using this measure investors decide whether or not to invest in a particular security.

### ***Dividend Payout Ratio***

Some investors are concerned about the proportion of current year earnings this retained in the business for growth and expansion in the future. Such investors believe that investing current earnings for future growth would consequently have impact on their wealth. It is the ratio of dividend per share to earnings per share.

### ***Return on Equity***

This is a profitability ratio that measures management efficiency in utilizing shareholders' fund for creating wealth for shareholders. This is measured as the net profit on ordinary activities after tax minus preference dividend divided by ordinary shareholders' fund.

### ***Equity Value***

This is outstanding shares multiplied by the share price.

### ***Accounting Conservatism***

This is book value divided by share value. It is net assets/market value where market value is issued & paid up shares multiplied by market price of share. This measures how reporting accountants recognize all losses in the books even when sometimes they have not occurred (anticipate all losses principle) while revenues are not recognized until they have occurred.

### ***Non-Financial Information***

The non-financial information includes all other information apart from the ones contained in the accounts. A non-financial information index as contained in appendix 4 was designed by the study and the index was calibrated with the International Integrated Reporting Framework (IIRF). The index was designed to extract information about the reporting circle, organization overview, political environment, economic information, industry-related information, performance review, business/product diversification, new discoveries, investment opportunities,

business model, strategic objectives, directors profile, appointment, resignation and retirement of directors, directors' remuneration policies, information on ICT and R&D, corporate social responsibilities and sustainability reporting, corporate governance reporting, financial risk management reporting, assurance reporting, and earnings forecast.

The data was generated by assigning scores to each item of the index such that a disclosure of an item of the index attracted 1 score or 0 if there was no disclosure on that item. At the end, the scores were aggregated for each sampled firm and were used to measure the non-financial information.

## **CHAPTER FOUR**

### **DATA ANALYSIS AND DISCUSSION OF RESULTS**

#### **4.1 Introduction**

This chapter contains the analysis of data (descriptive and inferential) with the results interpretation. Basically, the focus of this work is towards examining the usefulness of financial statements of some quoted firms in Nigeria for equity investment decision making. In order to do this, eight (8) research questions, objectives, and hypotheses were formulated; and as such two (2) basic models were estimated. In addition to the two (2) basic models, a yearly cross-sectional regression models which covered the periods from 1996 to 2015.

#### **4.2. Descriptive Analysis**

Table 4.1 in appendix 1 contains the results of the descriptive analysis. For the variable called non-financial information, Table 4.1 shows that out of the twenty two (22) components (contained in appendix 4) used in measuring the non-financial information, thirteen (13) components were reported on the average by the sampled firms over twenty (20) years with a minimum of 3 components and a maximum of 21 components. The non-financial disclosure index was made up of 22 components (contained in appendix 4), out of which part is historical by nature while the other part is futuristic in nature. During the data gathering stage, it was observed that much of the sampled firms disclosed non-financial information that was historical in nature much more than those that futuristic. If out of 22 components, 13 components on the average were disclosed, it shows that large part of the non-financial information that could influence investors' decisions was not disclosed in the annual reports.

Cap imposition was used in this study to determine how stock market regulation affects the ability of financial statement to provide useful information for investment decision. Table 4.1 shows that on the average there is 0.062 cap imposition on the

share price of sampled firms over the period covered. It implies that irrespective of the relevance of financial statement information share price is not allowed to fluctuate upward or downward beyond 6.2%.

The dummy variables used in this study are code 1 if success and 0 if otherwise. The dummy variables were created to measure the impact of IFRS, losses incurred by firms on the variation in share price. Obtaining the average value of a dummy variable may not make economic sense; therefore dummy variables are not interpreted descriptively.

The equity value is obtained by multiplying the share price of firms by the units of shares outstanding for each firm. On the average, equity amount of the firms over the period of 20 years was 155.0748 million naira.

Book value of equity on the other hand, measures the value of issued share based on accounting record. From Table 4.1, it is shown that the book value is ₦7.93k per share on the average. By comparing this with the average market value of ₦24.16 per share in Table 4.1, it is evident that the market value is relatively higher. The difference between the two values depicts how much of the information incorporated by the market price which was not captured by the financial statements. There is some information that makes investors revise their expectation about the future performance of firms which are usually not captured within financial statement framework. Such information include expected industry and economic performance, expected future cash flow from research and development, new product, new strategies, innovation and creativity, and appointment of resourceful employees/directors.

Accounting conservatism measures the tendencies of accounting practice to understate the net assets of firms relative to its economic value. Table 4.1 reveals that average practice of accounting conservatism measured by the ratio of book to market



value is 0.77. This buttresses the fact that market value reflects certain information not captured by the financial statements.

The average earning per share as contained in table 4.1 is 1.86 which shows that most of the companies for the period covered have good earnings performance. However, some of the companies did not have good earnings performance as indicated by earnings per share value of zero naira.

The dividend pay-out ratio measures how much of the current earnings are retained. In this case, the average dividend pay-out ratio is 1.15 which shows that firms pay less attention to future growth and expansion.

The earnings growth variable measures how much investor is willing to pay for the potential growth in the firm's earnings and consequently expected future cash flows. Table 4.1 reveals that the average earnings growth potential of firms over the period covered is 16.3047. The Table 4.1 also shows that some firm have as low as 0.031 while others have as high as 247.22. Nevertheless, on the average the earnings growth potential of firms is relatively high which implies that investors place premium value on the ability of Nigerian quoted firm to generate future cash flow from earnings.

Potential return on shareholders' investments is a measure of earnings yield. If the potential return is high, investors are motivated to price high the value of firms' share otherwise it priced low. From Table 4.1, it can be seen that the average potential return is as high as 5.90 meaning that investors would price high the shares of the firms.

The current actual return on shareholders' investments (carsi) measures the dividend yield. Depending on the preference of investors between receiving dividend and retaining profit for future growth, investors decide whether or not to invest in a particular security. Table 4.1 reveals that the average current actual return on

shareholders' investments is 0.063. Based on the current dividend payment policy of firms, it implies that the dividend yield of an investment is 0.063 per 1 naira market price per share.

Accrual earnings is that part of total earnings that is prepared strictly under the accrual accounting models. As contained in table 4.1, it is an average loss of 1241.036 million naira; nevertheless it is as high as 176753 million naira in some firms. Accrual accounting which involves making estimate about some items such provision for depreciation, provision for losses, impairment of assets, revaluation of assets to mention a few usually result to measurement error. Furthermore, accrual accounting which also involves the practice of not recognizing revenue unless it has actually occurred or accrued results to loss of information to investors.

Table 4.1 shows that cash flow from operation on the average is 3643.659 million naira. The cash flow from operation is unaffected by accrual accounting practice and as such investors pay close attention to it. While some investors believe that cash flow from operation is a better measure of firm performance, others believe that profit on ordinary activities as reported in the income statement conveys much more information about the underlying performance of firms than strictly cash flow from operation.

Return on equity measures the management efficiency in utilizing shareholders' fund to create wealth for investors. As contained in table 4.1, the return on equity is 0.155 which shows that management is relatively efficient for the sample firm over the period covered; although some firms have as low as -14.215.

Dividend cover measures the number of times dividend declared is guaranteed by earnings. As contained in table 4.1, the average dividend per share is 1.27 while the average earning per share is 1.86. The average dividends cover of 2.87 shows that the payment of dividend by earnings is guaranteed by at least two times. As a result,

investors who have preference for receiving dividend other than retaining for future growth would be satisfied.

Research and development and human capital information is increasingly demanded for by investors for their investment decision, but it was observed during the data gathering stage of this work that many companies did not disclose information on research and development cost. As contained in table 4.1, the average value for Research and development and human capital cost are 5.076 million naira and 2711 million naira respectively.

Total assets and total liabilities are some of the key information required by investors to make investment decisions. As contained in table 4.1 the average values for total assets and total liabilities are 57689.13 million and 207646 million respectively. These figures show that the sampled firms incurred huge debts either in form of bank loan, debentures or trade credit facilities; and such money is invested hugely on assets. Information of this nature is capable of influencing the decisions of investors depending on the risk appetite of the investors and the nature of industry in which the firms operate.

The capital structure variable which is the proportion of capital mix between debt and equity is measured as the ratio of total long term debts to shareholders fund. The figure as contained in table 4.1 is 0.26 which implies that Nigerian firms are mostly funded by equities. For investors whose risk appetite is high is unmotivated by this ratio but for those who are risk averse, they are motivated by this ratio to invest their wealth in such companies.

Table 4.1 also shows that cash outflows for both activities exceeded the cash inflows which may send a wrong signal to investors about the poor liquidity position of firms. Consequently, investors are not motivated to invest in a company with poor liquidity positions.

TABLE 4.1 DESCRIPTIVE STATISTICS

VARIABLE	OBS	MEAN	STD. DEV	MIN	MAX
Non-fin	777	13.33977	2.95069	3	21
Capimposition	796	0.0615578	0.0210918	0.05	0.1
Equityvalue	706	1550748	1.640007	20.0815	2.30008
Bookvalue	705	7.925744	16.77534	-43.18768	307.8425
Conservatism	795	0.77042	2.834191	-45.46071	37.34781
Shareprice	792	24.15547	46.98231	0.39	419
Eps	791	1.859843	3.744811	0	40.48
Dividpayout	678	1.151182	9.599767	0	227.2727
Earningsgrowth	678	16.3047	18.85134	0.0314257	247.2222
Potential return	760	5.896339	134.1827	-1486.007	2626.66
Carsi	796	0.06305	0.280072	0	5.063291
Acrualearning	796	-1241.036	18399.89	-346451	176753
Roe	749	0.1551779	0.7697304	-14.21564	3.646823
Dividendcover	585	2.866699	4.541688	0	73.10526
Dps	710	1.268045	3.022197	0	27.5
Rd	661	5.076069	57.60191	0	941
Humancap	691	2711.024	7587.213	0	96062.68
Tassets	728	57689.13	230197.3	34.087	3193216
Tliab	727	207646.2	2670478	11.301	5.190007
Capstruct	771	0.2611415	3.35876	-2.347081	90.50365
Cfo	696	3643.659	19174.27	-121957	259784
Cfi	695	-3332.366	82442.02	-1743785	1171640
Cff	692	-2443.125	91569.84	-2294504	647541

Author's computation, 2018

### 4.3 Test of Hypotheses

In order to provide answers to the research questions raised in this study, eight (8) main hypotheses and twenty four (24) sub-hypotheses were formulated and tested. Model 1 was estimated to test hypothesis 1, 2, 3, 4, 5, 6 and 7 while model 2 was estimated to test hypothesis 8. Before estimating model 1 and 2 for hypotheses

testing, some preliminary and diagnostic tests were carried out. The tests include: hausman test between fixed effect and random effect; poolability test; panel multi-collinearity test; panel normality test; panel heteroscedasticity test; and panel autocorrelation test.

The hausman test was conducted to select the most suitable estimation technique between the fixed effect (within estimator) and the random effect (between estimators). In a panel study where cross sectional and time series observations are combined together, it becomes crucial to consider the individual characteristics effect and time heterogeneity effect. The fixed effect estimator assumes that the individual effect and the time effect are both fixed parameter to be estimated but the stochastic error component is assumed to be identically and independently distributed with zero mean and constant variance. On the other hand, unlike the fixed effect the random effect estimator assumes that the individual effect, time effect, and the stochastic error term are all identically and independently distributed with zero mean and constant variance.

The result of the hausman test contained in Table 4.2 shows the  $\text{prob} > \chi^2$  to be 0.0000 which indicate that the null hypothesis was rejected implying that the fixed effect estimator is suitable for estimating the models other than the random effect.

TABLE 4.2 TESTS FOR FIXED AND RANDOM EFFECT

Ho: difference in coefficients not systematic
Chi2 = 141.37
Prob>Chi2 = 0.0000

Author's computation, 2018

Furthermore, poolability test was also conducted to see whether or not the data could be pooled together and estimated using the Ordinary Least Square estimator. If there was no evidence of significant individual effect and temporal effect, then the data would have been pooled together and estimated using the OLS. However, there was evidence of significant individual effect as contained in Table 4.2.1 which shows that the null hypothesis was rejected as the prob>chi2 is 0.0000. Therefore, as a result of the evidence of significant individual effect, the fixed effect model was estimated.

The details of the poolability test is contained in appendix 2.

TABLE 4.2.1 HAUSMAN BETWEEN FIXED EFFECT &amp;OLS-POOLABILITY TEST

Ho: difference in coefficients not systematic
Chi2 = 141.37
Prob>chi2 = 0.0000

Author's computation, 2018

Multicollinearity test was also conducted to ensure that independent variables in the estimated model did not perfectly collinear. Where the independent variables perfectly collinear, the regression estimates may be biased and consequently misleading. The result of the multi-collinearity test showed that there was no evidence of perfect multi-collinearity among the independent variables. The result is contained in table 4.3 which shows the variance inflation factor (VIF) and the inverse of VIF called tolerance factor. If the VIF for any variable exceeds 10, then such variable constitutes a co-linearity problem otherwise there is no evidence of perfect

co-linearity. Any variable with zero tolerance constitutes co-linearity problem. It means that the tolerance factor ranges between zero (0) and one (1) such that the closer the value to 1 the less the evidence of co-linearity problem. The result showed that no variable exceeded VIF of 10 or has zero tolerance, and as such no evidence of multi-collinearity. However, when the multi-collinearity test was initially conducted, earning variable constituted a problem but after transforming the variable, it was no more inducing co-linearity among the explanatory variables. The details of the multicollinearity test are contained in appendix 2.

TABLE 4.3 PANEL MULTICOLLINEARITY TEST

VARAIABLE	VIF	1/VIF-TOLERANCE FACTOR
capImp*EPS	9.30	0.107
Acrualearning	8.83	0.113
Cfo	7.39	0.135
EPSSQD	6.49	0.154
Dividpayout	5.90	0.169
Equityvalue	5.47	0.183
Carsi	5.12	0.195
Dps	4.63	0.216
Tassets	2.68	0.373
Bookvalue	2.66	0.377
Eps*conservatism	2.58	0.387
Dummyifrs	2.07	0.482
Roe	2.04	0.489
Dividendcover	1.76	0.569

Humancap	1.49	0.669
non-fin	1.47	0.680
Cff	1.47	0.680
Earningsgrowth	1.28	0.779
Capstruct	1.16	0.861
Dummylosses	1.12	0.892
Potentialreturn	1.05	0.952
Rd	1.05	0.955
Tliab	1.02	0.978
Cfi	1.01	0.987
Mean VIF	3.29	

Author's computation, 2018

Table 4.4 contains the result of panel normality test conducted. The Shapiro-Wilk test was carried out to check for the normality of the model's residual. The assumption of normality is that the residual has a mean of zero and variance that is constant; that is, the distribution of the residual is not significantly different from a theoretical distribution called the normal distribution. If the probability value is less than 0.01, 0.05 or 0.1 as the case may be then it means the distribution of the residual is significantly different from the normal distribution. Consequently, it means that the residual is not normally distributed. As contained in table 4.4, the probability value of the residual was less than 0.01, 0.05 and 0.1 which means that the assumption of normality of residual is violated. The details of the normality test are contained in appendix 2.



TABLE 4.4 PANEL NORMALITY TEST: SHAPIRO WILK TEST FOR NORMAL DATA

Variable	Prob>z
Resid1	0.0000

The Table 4.5 contains the panel heteroscedasticity test conducted. The assumption here is that the panel is homoscedastic, that is, constant variance across units and over time. The likelihood-ratio test result as contained in Table 4.5 showed that  $\text{prob}>\chi^2 = 0.0000$  which indicates heteroscedasticity. It therefore means that the assumption of constant variance is violated. The details of the heteroscedasticity test are contained in appendix 2.

TABLE 4.5 PANEL HETEROSCEDASTICITY TEST

Likelihood-ratio test: Ho: panel is homo-scedastic
LR $\chi^2 = 924.21$
Prob> $\chi^2 = 0.0000$

Author's computation, 2018

The panel autocorrelation diagnostic test was also conducted. The assumption here is that the residual is not serially correlated; no first order autocorrelation. In order to conduct this test, the Wooldridge test for autocorrelation in panel was used and the result is contained in table 4.6. The  $\text{prob}>F = 0.0030$  shows that the assumption of no autocorrelation was rejected which implies that the assumption is violated. The details of the panel autocorrelation test are contained in appendix 2.

TABLE 4.6 PANEL AUTOCORRELATION TEST

Wooldridge test for autocorrelation in panel data
Ho: no first order autocorrelation
$F(1, 33) = 10.305$
Prob>F = 0.0030

Author's computation, 2018

#### 4.3.1 Hypothesis One

For the purpose of testing this hypothesis, earnings, human capital, accrual earnings, dividend per share, and research and development cost information were used. In addition, two (2) control variables including dummy losses and dummy IFRS were examined and as such seven sub-hypotheses were tested. In order to test these sub-hypotheses, model 1 was estimated using the fixed effect panel regression estimation technique. Furthermore, since the diagnostic tests carried out showed that the assumption of the normality of residual; assumption of homoscedasticity; and the assumption of no first order autocorrelation were violated, hence, the fixed effect with robust standard error was estimated. Particularly, the Driscoll-kraay standard errors were used to overcome the violations.

The first sub-hypothesis states that earnings do not have significant impact on share price. Table 4.7 showed that the coefficient of earnings is 0.5929888 with a probability value of 0.000 ( $P < 0.05$ ). This means that share prices increase as earnings increase; such that as earnings increase by ₦2.00, the share price increases by 59k. We can therefore deduce that earnings significantly impacts on share price.

The secondly, Table 4.7 showed the coefficient of human capital to be 0.0009459 with a probability value of 0.002 ( $P < 0.05$ ). The interpretation is that share prices increase by 0.095k as investment in human capital increases by 1million naira. It can be deduced therefore that human capital significantly positively impacts on share

price. Thirdly, Table 4.7 showed that the coefficient of accrual earnings is 0.0007424 with a probability value of 0.039. Since the probability figure is less than 5% level of significance ( $P < 0.05$ ), the null hypothesis is rejected. It can be inferred that there is an increasing relationship between accrual earnings and share price such that as accrual earnings increases by 1million naira, share price increases by 0.0742k. Therefore, it can be deduced that accrual earnings significantly impact on share price. The fourth, Table 4.7 showed that the coefficient of dividend per share is 7.751637 with a probability value of 0.000. Since the probability value is less than 5% significant level ( $P < 0.05$ ), the null hypothesis is rejected. It means that there is significant positive relationship between dividend per share and share price such that as dividend per share increases by ₦1 share price increases by ₦7.751637. The fifth, Table 4.7 showed that the coefficient of research and development cost is 0.0245213 with a probability value of 0.024. Since the probability value is less than 5% significant level ( $P < 0.05$ ), the null hypothesis is rejected. It means that there is significant positive relationship between research and development cost and share price such that as research and development cost increases by 1million naira share price increases by 2.45k .It can therefore be deduced that research and development cost has significant positive impact on share price.

The sixth and seventh hypotheses are concerned with the control variables, dummy losses and dummy IFRS. Since the probability values of the two control variables are greater than the three conventional significance levels ( $P > 0.05$ ; 0.01; 0.1) the null hypotheses of no impact could not be rejected. It can therefore be deduced that the relationship between earnings and share price is not affected by losses reported by firms and by IFRS. Thus, whether IFRS is adopted or not share price is unaffected.

### 4.3.2 Hypothesis Two

Testing this hypothesis, the following elements of statement of financial position were used: book value of equity, capital structure, total assets and total liabilities and consequently four (4) sub-hypotheses were tested. Model 1 was equally estimated to test these sub-hypotheses. Table 4.7 showed that the coefficient for book value is 0.9197077 with a probability value of 0.000. The coefficient of 0.9197077 with a probability value which is less than 0.05 ( $P < 0.05$ ) showed that there is a significant positive relationship between book value of equity and share price. It means that as book value increases by ₦1.00 per share, share prices increase by 92k per share. It can therefore be deduced that book value of equity has positive impact on share price. Table 4.7 in appendix 3 equally showed that the coefficient of total assets is -0.0000203 with a probability value of 0.037. These results showed that there is significant negative relationship between total assets of firms and share price. It means as total assets increase by 1million naira, share price reduces by 0.00203k. It can therefore be deduced that total assets information has significant negative impact on share price.

Table 4.7 in appendix 3 also revealed that coefficient of total liabilities is 3.2000 with a probability value of 0.079. These figures showed that total liabilities have significant positive impact on share price. As total liabilities increase by 1million naira, share price increases by ₦3.20k. Therefore, it can be deduced that total liabilities have significant positive impact on share price. Also contained in table 4.7 in appendix3, is the coefficient of capital structure given as 6.6976 with a probability value of 0.049. These results indicate that capital structure has significant positive relationship with share price which means that as the ratio of equity to debt increases, share price increases by ₦6.70k. Therefore, it can be deduced that capital structure has significant positive impact on share price.

### **4.3.3 Hypothesis Three**

The three components of the cash flow statement were used in testing these hypotheses. In order to test these hypotheses, model 1 was equally estimated and the results are contained in table 4.7. The results show that there is significant positive relationship between cash flow from operation and share price; such that as cash flow from operation increases by 1million naira share price increases by 0.076k. The results show that the coefficient is 0.0007594 with a probability value of 0.056. It implies that cash flow from operation significantly positively impacts on share price. In addition, the cash flow for investing activities was evaluated and the results as contained in table 4.7 showed that the coefficient of cash flow for investing activities was 1.28 with a probability value of 0.505. This result showed that hypothesis was not rejected at any of the three conventional significance levels. It can be deduced that cash flow for investing activities do not significantly impact on share price. Table 4.7 also showed that the coefficient value of cash flow from financing activities is 0.0000779 which shows that the hypothesis could not be rejected at any of the three conventional significance levels. It can therefore be deduced that cash flow from financing activities does not have significant impact on share price.

### **4.3.4 Hypothesis Four**

In testing this hypothesis, seven (7) investors' ratios were computed and as such seven (7) sub-hypotheses were tested. The first sub-hypothesis states that dividend payout does not have significant impact on share price. Table 4.7 reveals that the coefficient of divided payout is -6.514375 as the probability value of 0.001 is less than 0.05. The interpretation of these results connotes opposite relationship between dividend that is paid out and the share price such that as dividend payout increase share price declines.

Table 4.7 reveals that the coefficient of earnings growth is 0.3865005 with a probability value of 0.001. As a result, the null hypothesis is rejected since the probability value is less than 5% ( $P < 0.005$ ). The implication of these results is that as price-earnings ratio (which is the measure earnings growth) increases, share price also increases by 38k.

Table 4.7 reveals that the coefficient of potential return is 0.0015758 with a probability value of 0.809. The interpretation connotes non-rejection of the hypothesis at any of the conventional significance levels. It can therefore be deduced that potential ratio on shareholders' investments does not significantly impact on price.

Fourth sub-hypothesis states that current actual return does not have significant impact on shareholders' investments. Table 4.7 reveals that the coefficient of Current Actual Return on Shareholders' Investments (CARSI) is 29.06173 with a probability value of 0.018. The interpretation shows non-rejection of the hypothesis since the probability value is less than 5% significance level ( $P < 0.05$ ). It shows that as Current Actual Return on Shareholders' Investments (CARSI) increases the share price also increases. Table 4.7 reveals that the coefficient of return on equity is -7.008806 with a probability value of 0.541. This shows non-rejection of the hypothesis which means return on equity does not significantly impact on price.

Table 4.7 showed that the coefficient of dividend cover is 0.3575844 with a probability value of 0.175. The interpretation of these results revealed that the hypothesis was not rejected meaning that dividend cover does not significantly impact on price. Table 4.7 showed that the coefficient of equity value is 1.020 with a probability value of 0.201. This is interpreted to connote non-rejection of the hypothesis at any of the conventional significance levels (10%, 5%, 1%). It can

therefore be deduced that equity value does not have significant impact on share price.

#### **4.3.5 Hypothesis Five**

In order to test this hypothesis model 1 was estimated and the results are contained in table 4.7 in appendix 3. The results showed that the coefficient of non-financial information is 0.6248934 with a probability value of 0.461. Most of the companies did not disclose information about investment opportunities, strategic objectives, ICT and R&D, future performance objective (apart from earnings forecast), new discoveries, and proposed business diversification. Therefore, since the probability value greater than the three conventional significance levels ( $P > 0.05$ ; 0.01; 0.1) the null hypotheses could not be rejected. It can be deduced following this that the non-financial information contained in the annual report does not have significant impact on share price.

#### **4.3.6 Hypothesis Six**

In order to test this hypothesis model 1 was estimated and the results are contained in Table 4.7. The results showed that the coefficient of the interaction between cap imposition and earnings is -37.21046 with a probability value of 0.011. Since the probability value is less than 5% significance level ( $P < 0.05$ ), the null is rejected. It implies negative link between interaction effect and share price such that, as cap imposition increases the ability of financial statement information to influence share price is reduced. It can therefore be deduced that cap imposition significantly limits the extent to which financial statement information influences share price.

#### **4.3.7 Hypothesis Seven**

In order to test this hypothesis, model 1 was equally estimated and the results are contained in Table 4.7. The results showed that the coefficient of the interaction effect of accounting conservatism is -7.643274 with a probability value of 0.000.

Since the probability value is lower, the hypothesis is rejected. It implies that accounting conservatism has negative impact on how earnings influence share price; as accounting conservatism increases, the less the power of earnings to influence share price. It can therefore be deduced that accounting conservatism has negative impact on how earnings influence share price.

Table 4.7 also contains the value of R-squared for model 1 as 0.6493 which means that about 65% variations in share price were jointly explained by information in the annual accounts. The R-squared also shows the fitness of the model. Since the  $\text{prob} > F$  is 0.0000 which is less than 0.01, 0.05 or 0.1 then it means the model was well fitted. Appendix 3 contains the details of the regression results for model 1.



TABLE 4.7 REGRESSION RESULTS FOR MODEL 1

Independent Variables	Coef.	Drisc/kraay Std. Err.	t	p>  t	[95% conf. Interval	
EPSSQD	0.5929888	0.0942238	6.29	0.000	0.3957761	0.7902014
Dividendpayout	-6.514375	1.692268	-3.85	0.001	-10.05633	-2.972417
Non-fin	0.6248934	0.8299601	0.75	0.461	-1.112233	2.36202
Earningsgrowth	0.3865005	0.1009828	3.83	0.001	0.175141	0.59786
Potentialreturn	0.0015758	0.0064336	0.24	0.809	-0.011889	0.0150414
Carsi	29.06173	11.25266	2.58	0.018	5.509653	52.61382
Dummylosses	2.836865	3.018058	0.94	0.359	-3.480004	9.153733
Acrualearnings	0.0007424	0.0003352	2.21	0.039	0.0000407	0.0014441
Returnnonequity	-7.008806	11.25793	-0.62	0.541	-30.57192	16.5543
Dividendcor	0.3575844	0.2535254	1.41	0.175	- 0.1730486	0.8882173
Dps	7.751637	1.089741	7.11	0.000	5.470783	10.03249
Rd	0.0245213	0.010021	2.45	0.024	0.0035471	0.0454955
Humancapital	0.0009459	0.00026	3.64	0.002	0.0004017	0.0014902
Totalassets	- 0.0000203	9.08e-06	-2.24	0.037	- 0.0000393	-1.34e-06
Totalliabilities	3.20e-07	1.72e-07	1.86	0.079	-4.06e-08	6.80e-07
Equityvalue	1.02e-07	7.74e-08	1.32	0.201	-5.95e-08	2.64e-07
Bookvalue	0.9197077	0.1632307	5.63	0.000	0.578062	1.261353
Capitalstructure	6.697619	3.186404	2.10	0.049	0.0283993	13.36684
CFO	0.0007594	0.0003736	2.03	0.056	- 0.0000226	0.0015415

CFI	1.28e-06	1.88e-06	0.68	0.505	-2.66e-06	5.22e-06
CFF	0.0000779	0.0000704	1.11	0.282	- 0.0000694	0.0002251
CapImpEPS	-37.21046	13.19529	-2.82	0.011	-64.82851	-9.592404
EPSconservem	-7.643274	1.680021	-4.55	0.000	-11.1596	-4.126951
Dummyifrs	-1.501089	5.349111	-0.28	0.782	-12.69691	9.694728
Constant	1.941949	10.98944	0.18	0.862	-21.05922	24.94312
R-squared	0.6493					
F-Statistics	1343.17					
P. Value	0.0000					

Author's computation, 2018

#### 4.3.8 Hypothesis Eight

Specifically, this hypothesis was broken down into sub-hypotheses in respect of the lagged values up to three (3) years for each of the included variables. In testing these hypotheses, model 2 was estimated and some of the lagged values significantly influenced current share price while some did not significantly influence current share price.

As contained in table 4.8, the coefficient of one year lagged value of earnings is 2.847161 with a probability value of 0.058. The probability figure is less than 0.1; hence, the null hypothesis was rejected. What can be deduced is that one year lagged value of earnings has significant positive impact on share price. However, the two years lagged value of earnings and the three years lagged value of earnings were not found significant.

The second sub-hypothesis states that previous years' dividend per share do not have significant impact on share price. Table 4.8 showed that two years and three years lagged values of dividend per share significantly influenced current share price.

Since their probability values of 0.098 and 0.010 were less 0.1 and 0.05 respectively, then the null hypotheses of no impact were rejected. It can therefore be deduced that previous years dividend significantly positively impacts on current price.

Table 4.8 showed that the coefficient of two years lagged value of total assets was - 0.0000533 with a probability value 0.000; hence the null hypothesis of no impact was rejected. It can therefore be deduced that previous years' total asset values have significant negative impact on share price.

The fourth sub-hypothesis states that previous year values of total liabilities do not have significant impact on share price. As contained in Table 4.8 the probability values of 0.932, 0.184, and 0.315 for one year, two years, and three years lagged values respectively were greater than the three conventional significance levels; hence the null hypotheses of no impact could not be rejected. It can therefore be deduced that previous years values of total liabilities do not significantly impact on price.

Table 4.8 revealed that, only one of the three lagged value for book value was significant. Specifically, the two years lagged value was significant at 5% significance level ( $P < 0.01$ ); hence the null hypothesis of no impact was rejected. It means therefore that there is evidence that past book value of equity significantly influences share price.

The six sub-hypothesis states that previous years' capital structure does not influence share price.

As contained in Table 4.8, none of the lagged values of capital structure is significant. Therefore it can be deduced that previous years' capital structure does not influence share price.

The seventh sub-hypothesis states that previous years' cash flow from operation does not have significant impact on share price. Table 4.8 showed that the

coefficients for one year and two years lagged value of cash flow from operation are 0.0008545 and 0.0007325 with a probability value of 0.034 and 0.032 respectively. Since the probability values were less than 5% significance level the null hypotheses of no impact were rejected. Therefore, there is evidence that previous years' values of cash flow from operation have significant positive influence on current share price.

The eighth sub-hypothesis states that previous years' cash flow from investing activities do not have significant impact on share price. Table 4.8 showed that not one of the lagged values was significant at any of 0.01, 0.05 and 0.1; hence, the null hypotheses could not be rejected. It can be deduced therefore that previous years' cash flow from investing activities do not significantly impact on price.

As contained in table 4.8, the coefficients of two years' and three years' lagged values are -2.8900 and -0.0000141 with probability values of 0.077 and 0.000 respectively; hence the null hypotheses of no impact were rejected. It can be deduced therefore that previous years' cash flow from financing activities do have significant impact on share price.

In respect of the fitness of the model, table 4.8 also showed the R-squared for model 2 as 0.4414 which means that about 45% variations in share price is jointly explained by previous years' financial statements. Appendix 3 contains the details of regression results for model 2.

TABLE 4.8 REGRESSION RESULT FOR MODEL 2

Independent Variables	Coef.	Robust Std. Err.	t	p>  t	[95% conf. Interval	
Lageps1	2.847161	1.453694	1.96	0.058	-0.0983031	5.792625
Lageps2	-0.5716058	1.037982	-0.55	0.585	-2.674756	1.531545
Lageps3	0.4970032	1.437272	0.35	0.731	-2.415187	3.409193
Lagdps1	3.963383	2.364754	1.68	0.102	-0.8280628	8.754829
Lagdps2	3.262748	1.919203	1.70	0.098	-0.6259266	7.151423
Lagdps3	1.924323	0.7070216	2.72	0.010	0.4917607	3.356885
Lagtotalassets2	-0.0000533	6.61e-06	-8.07	0.000	-0.0000667	-0.0000399
Lagtotalliabilities1	2.74e-08	3.20e-07	0.09	0.932	-6.21e-07	6.76e-07
Lagtotalliabilities2	5.06e-07	3.74e-07	1.35	0.184	-2.51e-07	1.26e-06
Lagtotalliabilities3	-4.11e-07	4.03e-07	-1.02	0.315	-1.23e-06	4.06e-07
Lagbookvalue1	-0.024626	0.0983747	-0.25	0.804	-0.2239522	0.1747001
Lagbookvalue2	-0.1799754	0.0456889	-3.94	0.000	-0.2725499	-0.0874009
Lagbookvalue3	0.265185	0.2810702	0.94	0.352	-0.3043173	0.8346873
Lagcapitalstructure1	-0.0164674	0.0387867	-0.42	0.674	-0.0950567	0.0621219
Lagcapitalstructure2	0.0580036	0.1017227	0.57	0.572	-0.1481062	0.2641135
Lagcapitalstructure3	0.9541024	0.6575111	1.45	0.155	-0.3781416	2.286346
Lagcfo1	0.0008545	0.0003879	2.20	0.034	0.0000687	0.0016404
Lagcfo2	0.0007325	0.0003287	2.23	0.032	0.0000665	0.0013985

Lagcfo3	- 0.0004555	0.000388	- 1.17	0.248	- 0.0012418	0.0003307
Lagcfl1	-2.40e-06	2.82e-06	- 0.85	0.401	-8.12e-06	3.32e-06
Lagcfl2	-3.31e-06	6.95e-06	- 0.48	0.637	- 0.0000174	0.0000108
Lagcfl3	-4.88e-06	4.14e-06	- 1.18	0.245	- 0.0000133	3.50e-06
Lagcfl1	-1.11e-06	2.72e-06	- 0.41	0.686	-6.61e-06	4.40e-06
Lagcfl2	-2.89e-06	1.59e-06	- 1.82	0.077	-6.11e-06	3.27e-07
Lagcfl3	- 0.0000141	2.41e-06	- 5.87	0.000	-0.000019	-9.24e-06
Constant	13.72091	3.828777	3.58	0.001	5.96307	21.47875
R-squared: within 0.4414 between 0.6683 overall 0.7136 Corr (u_i, xb) 0.5133						

Author's computation, 2018

Finally, yearly cross-sectional regressions from year 1996 to year 2015 were estimated and the results are contained in tables 4.9, 4.10, 4.11, up to table 4.28. Consequently, the R-squared figures for each year's regression were obtained and plotted against time variable to assess the trend and it is shown on figure 1 in appendix 3. The trend graph showed that there is variability in the trend on the usefulness of statements of financials over time. It shows over time there is fluctuation.

#### 4.4 Discussion of Findings

The study found that earnings information significantly explains share price; hence, it provides useful information for investors in making investment decisions. This

result is consistent with the findings of previous studies both in the developing and the developed economies. For instance Collin et al. (1994); Francis and Schipper (1999); Collins et al. (1997); Chen, Chen and Su (2001); Francis, Schipper and Vincent (2002); Ball and Shivakumar (2008); Oyerinde (2011); Menike and Man (2013); Kargin (2013); Chebaane and Othman (2014); Elshandidy (2014); Badenhorst, Brummer and Johannes (2015) found evidences that earnings provide useful information for equity investors. The finding is in consonant with the proposition of information and communication theory discussed in chapter two of this study. The theory posits that a message conveys information if the information influences action or decision. Therefore, since there is evidence that earnings explains variations in share price it means that earnings information makes market participants to revise their expectation about the future expected cash flow; hence it conveys information to meet users' need.

The study also found that human capital has significant impact on share price; hence information on human capital reported in the financial statement is useful for investment decision. This is consistent with the findings of Salman and Ibrahim (2015) who found that intellectual capital has significant impact on performance of selected banks in Nigeria. The finding is also in line with the proposition of valuation theory which establishes a link between accounting variables and firm value; since there is evidence that human capital information as reported in the financial statement is related to share price of sampled firms. However, the slope coefficient (partial effect) of human capital is less than that of earnings. The reason for this may be attributed to the fact that most companies did not have a robust information disclosure on human capital which is capable of limiting the size and quality of information accessible by investors.

Furthermore, the study splits earnings into accrual and cash flow as stipulated in decision usefulness theory of accounting. The theory is predicated on the cash flow effect of past transaction rather than the accrual based income. Contrary to this proposition, the findings revealed that accrual earnings have significant positive link with share price; hence it is useful for equity investment decision. It is documented in the literature that accrual earnings have significant influence on equity stock valuation but that cash flow earnings have more influence on equity stock valuation than accrual earnings (Beisland, 2010). The findings of this study in this regard are consistent with the documentation in the literature; as the slope coefficient of cash flow earnings is incrementally higher than the slope coefficient of accrual. The slope coefficient of aggregate earnings also is much higher than the slope coefficient of accrual earnings. The reason is that aggregate earnings combine both accrual and cash flow. The reason adduced by past studies for the discrepancy between the coefficient of cash flow and the of accrual earnings is that cash flow generally is claimed to be free from management discretion and manipulations (Lev & Zarowin, 1999). It is also claimed to be less affected by questionable accounting rules such as historical cost costing, realization principle and the principle of conservatism. This study also confirms the fact that conservatism has negative influence on the ability of earnings to explain variation in stock value.

Similarly, efforts were made by standard setters over the years to enhance the impact of accrual earnings on firm value and consequently stock market stability and efficiency. However, the efforts of standard setters have not yielded the desired results of supporting market stability and efficient capital allocation. The reason for the failure of current accounting model to enhance market stability and efficient capital allocation is enumerated in the literature to include lack of coherence in the conceptual framework and standards (Sutton, Cordery & Van Zijl, 2015).



Furthermore, Sutton, Cordery and Van Zijl (2015) stated that the two mutually exclusive concepts of relevance and reliability (now faithful representation) steadfastly upheld in the conceptual framework and in the standards is another major factor contributing to the failure of accounting standards to achieve market stability and efficiency. There is a trade between relevance and reliability such that if emphasis is much on relevance by standard setters, the objective of providing information for decision making is enhanced, whereas the stewardship objective is adversely affected. Contrarily, reliability is emphasized well over relevance; the objective of stewardship is enhanced at the expense of decision usefulness objective.

This study provides evidence IFRS does not significantly interact with earnings to influence investors' decisions. The result is consistent with the findings of Baffa, Mohammed and Abdulkadri (2014); Abubakar (2012); Felix and Rebecca (2015). However, some other studies found evidence that in the post IFRS adoption, there is improvement in reporting quality (Kargin, 2013; Elshandidy, 2014; Badenhorst et al, 2015; Alkali & Lode, 2016). It is therefore advocated that the objective of firm report should be on providing information for decision making as against the objective of satisfying the needs of many users. As such much attention is expected to be concentrated on relevance of GPFR rather than attempting to lay emphasis on the two qualities of relevance and reliability at the same time.

In the same vein, this study found that the non-financial information contained in the annual report does not have significant impact on share price; hence it does not provide significant information that could influence investors' action. This result appears contrary to expectation but a critical examination of the nature of the non-financial information contained in the annual report revealed it was more historical which is in line with stewardship objective rather than the decision usefulness objective (Sutton, Cordery & Van Zijl, 2015). For instance, information about

product/business diversification disclosed by firms was basically the ones the firms had done in the past. Also, information disclosed on economic environment bordered on the economic policy environment of the financial year end under review. Most of the companies did not disclose information about investment opportunities, strategic objectives, ICT and R&D, future performance objective (apart from earnings forecast). Those firms that managed to provide information about strategic objectives provided strategic objectives of the period under review instead of the future strategic objective.

According to Collin et al. (1994); Lev and Zarowin (1999), the nature of the information required by investors' is such that could influence market participants to revise their expectation about the future expected cash flow from the firm and not such that pertains to the past.

The study provides information that the book value of equity provides information useful for investment decision. This result is also consistent with past studies (Oyerinde, 2011; Babalola, 2012; Pervan & Bartulovic, 2014)

Similarly, the study found that research and development costs influenced investors' decisions on equity investments. This result is similar to the findings of Barth et al. (1998); Abubakar and Abubakar (2015). It was further revealed that the size of influence by earnings and book value on share price is larger than the size of influence of research and development costs and human capital cost; although the opposite was expected based on the continuous change in consumers taste, shift from industry to a knowledge based economy, and continuous change in information and communication technologies. What may be responsible for this departure from expectation is the practice of writing off the costs of research and development in the year it is incurred, whereas the potential return or benefits from such investment is capable of showing up in much later years than when the cost was incurred (Amir &

Lev 1996; Holthausen & Watt, 2001). Therefore, the practice of writing off research cost like it is done for trading expenses is capable of hiding vital information from investors both in the short and long run.

Furthermore, the study found that total assets and total liabilities have significant influence on share price; meaning that they provide useful information investment decision. This result is consistent with the valuation theory which establishes a link between accounting numbers and firm values. Not too many studies have examined the impact of total assets and total liabilities on share price; instead efforts were dedicated to earnings, book values, investment ratios and cash flows. Nevertheless, Francis and Schipper (1999); Alkali and Lode (2016) provided evidence similar to the finding of this study that asset and liabilities provide useful information for investment decision. In particular, total assets negatively impacted price while liabilities significantly positively impacted price. The justification for the inverse relationship between total assets and share price is that the assets that are capable of driving investors to revise their expectation about the future-expected cash flows of firm are less of industry/production based assets but more of information and communication technology based assets, human capital based assets, research and development-based assets, and customer oriented services based assets.

According to Lev and Zarowin (1999); Amir and Lev (1996); Abubakar and Abubakar (2015), developing economies like Nigeria invest heavily in industry/production-based assets whereas the developed economies have shifted focus from industry/production-based economy to services, information and communication technology (ICT) based economy such that investment in industry/production based assets do not influence investors to positively revise their expectation about the future-expected cash flows of firms. More so, in cases where firms have some investments in intangible assets such as research, ICT, brand name,

and human capital, the costs of such investment are unjustifiably treated as expenses instead of appropriately treating it as assets by Nigerian firms. Except for few cases, as evident during the data gathering stage of this study, most companies treated investment in research, ICT, brand name, and human capital as expenses written off within one year. Such practices are capable of introducing volatility into earnings' stream; and equally hide important information from investors.

On the other hand, the justification for the positive link between total liabilities and share prices of firms may be attributable to the fact that the investors are risk lovers other than being risk averse.

Similarly, the study found that capital structure of firms has significant impact on share price; hence it provides useful information for investment decision. This is consistent with the information and communication theory which states that information convey message if it influences action; and since the capital structure provides information that influences investment decision, it is consistent with it.

The study also found that cash flow significantly influences share prices; hence it provides useful information for investment decision making. This is consistent with the decision usefulness theory which establishes a link between cash flow effect of past transaction and investors' information need and consequently investment decision. This is consistent with the work of Francis and Schipper (1999); Shubita (2013); and Lorex (2014).

Investors' ratios were computed including dividend payout, earnings growth, potential return, current actual return on shareholders' investment, return on equity, dividend cover, equity values and hypotheses were tested on each of them. There were seven investors ratios that were tested out of which only three tested significant namely: dividend payout, earnings growth, and current actual return on shareholders' investments. The reason why most of the investors' ratios were not significantly

providing useful information for investment decision is not unconnected to the reason why non-financial information did not significantly provide useful information for investment decision. The type of information disclosed in annual accounts is historical, transaction-based, and prepared under the principle of conservatism whereas the nature of information that is capable of influencing investment decision is such that is connected with the future expected cash flow of firms. The ratios that were tested significant were consistent with the signaling theory which establishes a link between corporate actions and share price. Not too many studies have examined the impact of current actual return on shareholders' investments and earnings growth potential; however, for dividend cover, Oyerinde (2011) equally found it significantly influencing share price.

Furthermore, the study provided evidence that previous years' information is useful for investment decision. This finding is contrary to the capital market efficiency theory that says information is instantaneously impounded in share price. However, the result is consistent with the assertion made by Grossman and Stiglitz (1980) that it is impossible for prices to perfectly reflect all publicly available information regardless of the position of capital market hypothesis advocates. This is why previous years financial statement information still influences investors' decision making as reported in this study.

In addition, this study found that cap imposition limits the amount of variation in share price justified by annual accounts; thus, annual accounts information is not fully impounded in share price when it is released. Consequently, another reason why the capital market efficiency theory is violated in this case in relation to the Nigerian market is traceable to this cap imposition. Since the cap imposition limits the movement upward or downward in share price regardless of how informative the

financial statement is, there would be delay and as such previous years' information could be related to the current share price.

Finally, the yearly cross-sectional regression results showed that the trend is neither increasing nor decreasing; instead it has variability depending on the period of time. Therefore, the claim by Lev and Zarowin (1999) that the usefulness of financial statement information is declining is not evident in the Nigerian market. The difference between this result and the result from the developed economies such as Lev and Zarowin (1999) may be attributed to the difference in the level of sophistication of market participants, especially the investors in both economies. Sophistication in this sense refers to the qualities and quantities of information demanded by investors to make investment decisions (Oludoyi, 2009). This may also be due to the fact that information sources available to investors in developing economies are limited and as such investors are restricted to annual accounts and other miscellaneous information sources (Bruner, Conroy, Estrada, Kritzman, & Li, 2002). The variability depicted on the trend graph may be attributable to policy inconsistencies and policy enforcement problem by the governments and standard setters respectively.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1. Introduction**

The problem addressed in this study is connected to relevant and reliable information for investment decisions. In addition, the impact of accounting conservatism, cap imposition over share prices on the decision usefulness of financial statements was examined. This section therefore provides the summary of the study, conclusion reached, and the recommendations made.

#### **5.2 Summary**

The main objective was broken down into eight (8) specific objectives, research questions and hypotheses. Consequently, sub-objectives, sub-research questions and sub- hypotheses were also formulated and tested. The key concepts in this study are decision usefulness (investment decision), financial statements of quoted firms, accounting variables, relevance, reliability, and market values of firms' share. Five (5) theories were used to underpin this study which includes: decision usefulness theory; capital market efficiency theory, valuation theory, information and communication theory, and signaling theory. Panel regression models were specified and estimated using the fixed effect (within estimator) estimation technique. The objectives of the study were subjected to empirical analyses through hypotheses testing and the summaries of findings are discussed subsequently.

The following specific findings were made in this study:

- (i). the study found that earnings have significant positive impact on share price such that as earnings increase, share price also increases; hence it is useful for investment decisions

(ii). the study also found that human capital information has significant positive impact on share price in a way that share price of firm j increases as the firm increases its investments in human capital.

(iii). the study further revealed that accrual earnings have significant positive influence on firms share price such that as accrual earnings increased, the share prices of firms equally increased which signifies that accrual earnings have information content that is useful for investment decisions.

(iv). the study showed that dividend per share has significant positive impact on share price such that the share prices of firms increased as dividend per share increased; meaning that dividend per share signal useful information to investors for their investments decisions.

(v). the study found that research and development costs significantly positively impacts on prices such that prices increased as firms invested more in research and development. Therefore, it implies that research and development costs provide useful information for investment decisions.

(vi). there is no evidence that the period of adopting IFRS witnessed increase or decrease in the link between financial statement information and firms share price; hence share prices of firms are not significantly affected by adopting or not adopting IFRS.

(vii). the study also revealed that losses incurred by firms do not have significant impact on share price; meaning that it does not provide useful information for investment decision.

(viii). it was also discovered that book value significantly positively have impact on share price.

(ix). capital structure was also discovered to have significant positive impact on share price of firms such that as the ratio of equity to debt increases, share price equally



increases; meaning that information on the capital structure of firms influences investors decision.

(x). the study further found that total assets of firm has significant negative impact on share price of firms such that as firms increase their investment in assets, the value of firms share price reduces. Nevertheless, it provides useful information for investment decision since it influences investors' action.

(xi). in the same vein, the study revealed that total liabilities have significant positive impact on share price such that share prices increased as total liabilities increased; hence it provides useful information that is capable of influencing investors decision.

(xii). the study also revealed that cash flow from operation has significant positive impact on share price in a way that share prices increase as cash flow from operation increases, which implies that it is decision useful.

(xiii). there is no evidence of significant link between cash flow from financing activities, cash flow from investing activities and share price which means that they both do not significantly influence investors' decisions.

(xiv). the study also showed that dividend payout, earnings growth, and the current actual return on shareholders' investments have significant impact on share price which implies that dividend payout, earnings growth, and the current actual return on shareholders' investments provide useful information for investment decisions.

(xv). it was equally showed that potential return, return on equity, dividend cover, and equity value do not have significant impact on share price which means that they do not provide significant useful information that could influence investors' decisions.

(xvi). the study discovered that there was no link between non-financial information share price which implies that market participant do not revise their expectation about the future expected cash flow of firms based on such information.

(xvii). the study also showed that cap imposition has significant negative impact on how earnings influence share price in a way that as cap imposition increases, the extent to which earnings information influences share price reduces.

(xviii). the study further found that accounting conservatism has significant negative impact on how earnings influence share price such that the extent to which earnings information influences share price reduces as accounting conservatism increases.

(xix). it was also revealed that previous years information on earnings, dividend per share, total assets, book value of equity, cash flow from operation, and cash flow from financing activities have significant influence on current year share price.

(xx). the study found that there was variability in the decision usefulness of financial statement information over time such that it was high in some periods while it was low in some other periods.

### **5.3 Conclusion**

Consequent upon the findings, the study concluded that the financial statements of quoted firms in Nigeria were decision-useful while the non-financial information was not decision-useful. However, the decision-usefulness of financial statements was negatively affected by accounting conservatism and cap imposition.

### **5.4 Recommendations and Policy Implications**

Based on the findings emanating from this study, the following recommendations were made and policy implications were discussed.

(i). The study found that the income statement of quoted firms provided useful information for investment decision; however research and development, and human capital provided less information when compared with earnings. Therefore, since the information about firms' investment in human capital, research and development form a key component of the information required by investors; it is recommended that standard setters and regulatory bodies should ensure through policy formulation

and enforcement that preparers of financial statements provide adequate disclosure of information on research and development and human capital. The implication is that if nothing is done to ensure adequate disclosure and appropriate treatment of research and development cost and human capital, the information needs of investors would not be met and consequently the demand for financial statement information would decline.

(ii). The study also found that statement of financial position provides useful information for investment decision. Particularly, capital structure rank highest in term of the absolute value of its partial effect on share price measured by the slope coefficient, followed by total liabilities, book value of equity, and total assets. Notably, total assets had a negative influence on share price. It is therefore recommended that firms should invest more in assets that have direct bearing on shareholders' wealth. It is also recommended that the standard setters through enforcement should ensure adequate disclosure and appropriate reporting of asset information especially intangible assets. The implication of not disclosing information on the type of asset that have bearing on investment decisions is that investors would not find the information useful for decision making; hence a decline in the demand for financial statement information.

(iii). It is further recommended that standard setters and the reporting accountants should improve upon the quality of cash flow statement information, particularly financing and investing activities as these did not provide useful information for investment decisions.

(iv). Financial ratios are usually computed using the information contained in the financial statement prepared by firm. Therefore, since most of the investors' ratios examined in this study showed no evidence of useful information for investment

decision, it is recommended that standard setters should further ensure that standards set are guided by the decision objective.

(v). Furthermore, the study revealed that the non-financial information reported by firms did not provide useful information for investment decision. It is therefore recommended that standard setters and reporting accountants should further keep in focus the decision usefulness objective. The implication is that the current model for preparing the financial statements especially the non-financial information should be redirected towards providing useful information for decision making.

(vi). The study revealed that the imposition of ceil (cap) on share price by stock market authorities limited the extent to which financial statements information influence share price. The study therefore deduced that the limitation imposed by the ceil is the reason why previous years' financial statements affect current year share price. It is hereby recommended that the Nigerian Security Exchange Commission (SEC) and the Nigerian Stock Exchange (NSE) to consider remove the cap imposed on firms share price. The implication is that failure to remove the cap on share prices would lead to market inefficiency which has negative effect on stock market development.

(vii). It is documented in this study that accounting conservatism which is the writing down of the net asset of firms relative to its economic value has negative effect on the extent to which financial statement information affect investment decision. It is therefore recommended that standard setters should revisit the application of accounting conservatism.

(viii). The study revealed that previous years' financial statement information provided explanation for the variation in share price. Therefore, the study recommended that investors in the Nigerian market should look beyond the current year financial statement into previous years' financial statements in sourcing for

relevant information for their investment decisions. It is also recommended that the stock market authority should improve stock market efficiency.

### **5.5 Contribution to Knowledge**

Consequent upon this study following contributions were made to the existing literatures in this field of study.

- i. The study revealed that previous years' financial statements information provide useful information for investment decisions in the current year. It implies that investors could obtain relevant information from previous years' financial statements for their decision to buy, hold or sell off shares of a firm.
- ii. The study also revealed that the non-financial information contained in the annual report of quoted Nigerian firm which were historical in nature is not the type of information required by investors for investment decision. Such information could not influence market participants to revise their expectation about the expected future cash flows of firms.
- iii. The study equally provided empirical evidence that cap imposed by stock market authorities on share prices of quoted firms limited the extent to which financial statements information influence share prices thereby calling for its removal.
- iv. The study also provided empirical evidence that accounting conservatism reduces the extent to which financial statements information affects share prices of quoted firms.
- v. It was revealed by the study that total liabilities and capital structure provided useful information for investment decision. Notably, total assets were reported to have inverse relationship with share price.
- vi. The study provided evidence that cash flow from operation provided useful information for investors' decision.

vii. The study also provided evidence that accrual earnings, research and development cost, human capital are decision useful.

viii. Finally, the study revealed that investors' ratios such as earnings growth and current actual return on shareholders' investments provided useful information for investment decision.

## **5.6 Limitation of Study and Areas of Further Research**

This study is limited in many ways and as such the findings should be interpreted and adopted with cautions; however, the limitations do not in any way invalidate the findings. It is therefore, expected that future researches would address some of the limitations.

The study is limited in the area of sample size such that if data are readily available, future researcher should study much larger sample size. By increasing the sample size, the generalization of findings would be enhanced.

Secondly, the study did not investigate every component of income statement such as trading expenses and sales revenue; therefore future research study may examine the variables.

In addition, as at the time of data gathering for this study the financial statements for the year 2016 were not available for many companies and as such it was not included in the study; future research may put that into consideration.

Finally, the objectives of GPFR are not limited to providing information for decision making by investors; they also include stewardship and contract settlement objectives. This study only examined the decision usefulness objective; other study may consider examining other objectives.

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## APPENDIX 1

### DESCRIPTIVE STATISTICS

Variable	Obs	Mean	Std. Dev.	Min	Max
nonfin	777	13.33977	2.95069	3	21
capimposit~n	796	.0615578	.0210918	.05	.1
dummyifrs	796	.2311558	.4218369	0	1
equityvalue	706	1550748	1.64e+07	20.0815	2.30e+08
bookvalue	705	7.925744	16.77534	-43.18768	307.8425
conservatism	795	.77042	2.834191	-45.46071	37.34781
shareprice	792	24.15547	46.98231	.39	419
eps	791	1.859843	3.744811	0	40.48
dividpayout	678	1.151182	9.599767	0	227.2727
earningsgr~h	678	16.3047	18.85134	.0314257	247.2222
potentialr~n	760	5.896339	134.1827	-1486.007	2626.66
carsi	796	.06305	.280072	0	5.063291
dummylosses	752	.1170213	.3216596	0	1
acrualearnng	796	-1241.036	18933.89	-346451	176753
roe	749	.1551779	.7697304	-14.21564	3.646823
dividendco~r	585	2.866699	4.541688	0	73.10526
dps	710	1.268045	3.022197	0	27.5
rd	661	5.076069	57.60191	0	941
humancap	691	2711.024	7587.213	0	96062.68
tassets	728	57689.13	230197.3	34.087	3193216
tliab	727	207646.2	2670478	11.301	5.19e+07
conservatism	795	.77042	2.834191	-45.46071	37.34781
capstruct	771	.2611415	3.35876	-2.347081	90.50365
cfo	696	3643.659	19174.27	-121957	259784
cfi	695	-3332.366	82442.02	-1743785	1171640
cff	692	-2443.125	91569.84	-2294504	647541

## APPENDIX II- DIAGNOSTIC TESTS

### HAUSMAN BETWEEN FIXED EFFECT AND RANDOM EFFECT

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
EPSSQD	.5929888	.5972876	-.0042989	.0237157
dividpayout	-6.514375	-7.83349	1.319115	.2224889
nonfin	.6248934	.8833591	-.2584657	.4292936
earningsgr~h	.3865005	.390821	-.0043204	.0124613
potentialr~n	.0015758	-.0024192	.003995	.
carsi	29.06173	34.3151	-5.253364	.
dummylosses	2.836865	5.421279	-2.584414	1.185834
acrualearn	.0007424	.0001413	.0006011	.0001346
roe	-7.008806	12.75053	-19.75934	3.254755
dividendco~r	.3575844	.011373	.3462114	.08073
dps	7.751637	9.537461	-1.785825	.4457052
rd	.0245213	.0364653	-.011944	.0121919
humancap	.0009459	.0008103	.0001356	.0002088
tassets	-.0000203	-7.17e-06	-.0000132	1.76e-06
tliab	3.20e-07	2.54e-07	6.53e-08	.
equityvalue	1.02e-07	-4.66e-08	1.49e-07	2.53e-07
bookvalue	.9197077	1.022064	-.1023559	.1200149
capstruct	6.697619	8.997639	-2.300019	1.062462
cfo	.0007594	.0000901	.0006693	.000178
cfi	1.28e-06	4.17e-06	-2.90e-06	.
cff	.0000779	.0000614	.0000164	.0000451
CapImpEPS	-37.21046	-18.86821	-18.34224	5.680205
EPSCONSERV~M	-7.643274	-7.374331	-.2689434	.3757662
dummyifrs	-1.501089	-5.296248	3.795159	1.41377

b = consistent under Ho and Ha; obtained from xtreg  
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(16) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
 = 141.37  
 Prob>chi2 = 0.0000  
 (V\_b-V\_B is not positive definite)

# HAUSMAN BETWEEN FIXED EFFECT & OLS-POOLABILITY TEST

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) ols		
EPSSQD	.5929888	.5972876	-.0042989	.0237157
dividpayout	-6.514375	-7.83349	1.319115	.2224889
nonfin	.6248934	.8833591	-.2584657	.4292936
earningsgr~h	.3865005	.390821	-.0043204	.0124613
potentialr~n	.0015758	-.0024192	.003995	.
carsi	29.06173	34.3151	-5.253364	.
dummylosses	2.836865	5.421279	-2.584414	1.185834
acrualearn	.0007424	.0001413	.0006011	.0001346
roe	-7.008806	12.75053	-19.75934	3.254755
dividendco~r	.3575844	.011373	.3462114	.08073
dps	7.751637	9.537461	-1.785825	.4457052
rd	.0245213	.0364653	-.011944	.0121919
humancap	.0009459	.0008103	.0001356	.0002088
tassets	-.0000203	-7.17e-06	-.0000132	1.76e-06
tliab	3.20e-07	2.54e-07	6.53e-08	.
equityvalue	1.02e-07	-4.66e-08	1.49e-07	2.53e-07
bookvalue	.9197077	1.022064	-.1023559	.1200149
capstruct	6.697619	8.997639	-2.300019	1.062462
cfo	.0007594	.0000901	.0006693	.000178
cfi	1.28e-06	4.17e-06	-2.90e-06	.
cff	.0000779	.0000614	.0000164	.0000451
CapImPEPS	-37.21046	-18.86821	-18.34224	5.680205
EPSCONSERV~M	-7.643274	-7.374331	-.2689434	.3757662
dummyifrs	-1.501089	-5.296248	3.795159	1.41377

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from regress

Test: Ho: difference in coefficients not systematic

$$\chi^2(16) = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 141.37$$

$$\text{Prob}>\chi^2 = 0.0000$$

(V\_b-V\_B is not positive definite)

## PANEL MULTICOLLINEARITY TEST

. estat vif

Variable	VIF	1/VIF
CapImpePS	9.30	0.107482
acrualearn	8.83	0.113224
cfo	7.39	0.135293
EPSSQD	6.49	0.154070
dividpayout	5.90	0.169384
equityvalue	5.47	0.182867
carsi	5.12	0.195348
dps	4.63	0.215949
tassets	2.68	0.373422
bookvalue	2.66	0.376559
EPSCONSERV~M	2.58	0.386976
dummyifrs	2.07	0.482154
roe	2.04	0.489030
dividendco~r	1.76	0.568663
humancap	1.49	0.669203
nonfin	1.47	0.680290
cff	1.47	0.680789
earningsgr~h	1.28	0.779372
capstruct	1.16	0.861204
dummylosses	1.12	0.892413
potentialr~n	1.05	0.952570
rd	1.05	0.955111
tliab	1.02	0.978139
cfi	1.01	0.986953
Mean VIF	3.29	

## PANEL NORMALITY TEST

. swilk resid1

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	Z	Prob>z
resid1	444	0.78648	64.548	9.964	0.00000

## PANEL HETEROSCEDASTICITY TEST

Cross-sectional time-series FGLS regression

Coefficients: **generalized least squares**  
 Panels: **homoskedastic**  
 Correlation: **no autocorrelation**

Estimated covariances	=	1	Number of obs	=	444
Estimated autocorrelations	=	0	Number of groups	=	41
Estimated coefficients	=	25	Obs per group: min	=	1
			avg	=	10.82927
			max	=	20
			wald chi2(24)	=	2331.66
Log likelihood	=	-1987.32	Prob > chi2	=	0.0000

shareprice	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
eps	10.05457	.7799775	12.89	0.000	8.525839	11.58329
dividpayout	-4.505329	1.24779	-3.61	0.000	-6.950952	-2.059706
conservatism	.1698606	.3804141	0.45	0.655	-.5757373	.9154585
capimposit~n	178.5339	78.69507	2.27	0.023	24.29437	332.7734
nonfin	.3833797	.4413633	0.87	0.385	-.4816766	1.248436
earningsgr~h	.4884642	.0622936	7.84	0.000	.3663711	.6105574
potentialr~n	-.0008451	.0061077	-0.14	0.890	-.0128159	.0111257
carsi	9.441263	9.289596	1.02	0.309	-8.766011	27.64854
dummylosses	1.646103	6.339427	0.26	0.795	-10.77895	14.07115
acrualearng	.0003077	.0002363	1.30	0.193	-.0001554	.0007709
roe	4.651417	3.775598	1.23	0.218	-2.74862	12.05145
dividendco~r	-.7095435	.2743038	-2.59	0.010	-1.247169	-.171918
dps	7.657228	.8713243	8.79	0.000	5.949464	9.364992
rd	.0351824	.0331172	1.06	0.288	-.029726	.1000909
humancap	.0003904	.0002075	1.88	0.060	-.0000164	.0007972
tassets	-.0000108	6.34e-06	-1.71	0.088	-.0000232	1.61e-06
tliab	1.19e-07	7.23e-07	0.17	0.869	-1.30e-06	1.54e-06
equityvalue	-8.61e-08	1.14e-07	-0.75	0.452	-3.10e-07	1.38e-07
bookvalue	.1220193	.1053684	1.16	0.247	-.0844989	.3285375
capstruct	10.58782	2.891772	3.66	0.000	4.92005	16.25559
cfo	.000305	.0002095	1.46	0.145	-.0001056	.0007157
cfi	-4.45e-06	.0000101	-0.44	0.659	-.0000242	.0000153
cff	.0000652	.0001109	0.59	0.557	-.0001522	.0002826
IFRSEPS	-5.145597	.7959406	-6.46	0.000	-6.705612	-3.585582
_cons	-21.529	6.106812	-3.53	0.000	-33.49813	-9.559864

. local df = e(N\_g) - 1

. lrtest hetero . , df(`df')

Likelihood-ratio test	LR chi2(40) =	924.21
(Assumption: . nested in hetero)	Prob > chi2 =	0.0000

## TEST OF PANEL AUTOCORRELATION

wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F( 1, 33) = 10.305  
 Prob > F = 0.0030

## APPENDIX III

### REGRESSION RESULTS FOR MODEL1

Regression with Driscoll-Kraay standard errors      Number of obs      =      444  
Method: **Fixed-effects regression**      Number of groups      =      41  
Group variable (i): **firmed**      F( 24, 19)      =      1343.17  
maximum lag: 2      Prob > F      =      0.0000  
within R-squared      =      0.6493

shareprice	Coef.	Drisc/Kraay Std. Err.	t	P> t	[95% Conf. Interval]	
EPSSQD	.5929888	.0942238	6.29	0.000	.3957761	.7902014
dividpayout	-6.514375	1.692268	-3.85	0.001	-10.05633	-2.972417
nonfin	.6248934	.8299601	0.75	0.461	-1.112233	2.36202
earningsgr~h	.3865005	.1009828	3.83	0.001	.175141	.59786
potentialr~n	.0015758	.0064336	0.24	0.809	-.0118898	.0150414
carsi	29.06173	11.25266	2.58	0.018	5.509653	52.61382
dummylosses	2.836865	3.018058	0.94	0.359	-3.480004	9.153733
acrualearn	.0007424	.0003352	2.21	0.039	.0000407	.0014441
roe	-7.008806	11.25793	-0.62	0.541	-30.57192	16.5543
dividendco~r	.3575844	.2535245	1.41	0.175	-.1730486	.8882173
dps	7.751637	1.089741	7.11	0.000	5.470783	10.03249
rd	.0245213	.010021	2.45	0.024	.0035471	.0454955
humancap	.0009459	.00026	3.64	0.002	.0004017	.0014902
tassets	-.0000203	9.08e-06	-2.24	0.037	-.0000393	-1.34e-06
tliab	3.20e-07	1.72e-07	1.86	0.079	-4.06e-08	6.80e-07
equityvalue	1.02e-07	7.74e-08	1.32	0.201	-5.95e-08	2.64e-07
bookvalue	.9197077	.1632307	5.63	0.000	.578062	1.261353
capstruct	6.697619	3.186404	2.10	0.049	.0283993	13.36684
cfo	.0007594	.0003736	2.03	0.056	-.0000226	.0015415
cfi	1.28e-06	1.88e-06	0.68	0.505	-2.66e-06	5.22e-06
cff	.0000779	.0000704	1.11	0.282	-.0000694	.0002251
CapImpEPS	-37.21046	13.19529	-2.82	0.011	-64.82851	-9.592404
EPSCONSERV~M	-7.643274	1.680021	-4.55	0.000	-11.1596	-4.126951
dummyifrs	-1.501089	5.349111	-0.28	0.782	-12.69691	9.694728
_cons	1.941949	10.98944	0.18	0.862	-21.05922	24.94312

## REGRESSION RESULT FOR MODEL2

Fixed-effects (within) regression  
 Group variable: **firmid**

Number of obs = **424**  
 Number of groups = **38**

R-sq: within = **0.4414**  
 between = **0.6683**  
 overall = **0.7136**

Obs per group: min = **1**  
 avg = **11.2**  
 max = **17**

F(23,37) = **.**  
 Prob > F = **.**

corr(u\_i, Xb) = **0.5133**

(Std. Err. adjusted for 38 clusters in firmid)

shareprice	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
lageps_1	2.847161	1.453694	1.96	0.058	-.0983031	5.792625
lageps_2	-.5716058	1.037982	-0.55	0.585	-2.674756	1.531545
lageps_3	.4970032	1.437272	0.35	0.731	-2.415187	3.409193
lagdps_1	3.963383	2.364754	1.68	0.102	-.8280628	8.754829
lagdps_2	3.262748	1.919203	1.70	0.098	-.6259266	7.151423
lagdps_3	1.924323	.7070216	2.72	0.010	.4917607	3.356885
lagtassets_2	-.0000533	6.61e-06	-8.07	0.000	-.0000667	-.0000399
lagtliab_1	2.74e-08	3.20e-07	0.09	0.932	-6.21e-07	6.76e-07
lagtliab_2	5.06e-07	3.74e-07	1.35	0.184	-2.51e-07	1.26e-06
lagtliab_3	-4.11e-07	4.03e-07	-1.02	0.315	-1.23e-06	4.06e-07
lagbookval~1	-.024626	.0983747	-0.25	0.804	-.2239522	.1747001
lagbookval~2	-.1799754	.0456889	-3.94	0.000	-.2725499	-.0874009
lagbookval~3	.265185	.2810702	0.94	0.352	-.3043173	.8346873
lagcapstru~1	-.0164674	.0387867	-0.42	0.674	-.0950567	.0621219
lagcapstru~2	.0580036	.1017227	0.57	0.572	-.1481062	.2641135
lagcapstru~3	.9541024	.6575111	1.45	0.155	-.3781416	2.286346
lagcfo_1	.0008545	.0003879	2.20	0.034	.0000687	.0016404
lagcfo_2	.0007325	.0003287	2.23	0.032	.0000665	.0013985
lagcfo_3	-.0004555	.000388	-1.17	0.248	-.0012418	.0003307
lagcffi_1	-2.40e-06	2.82e-06	-0.85	0.401	-8.12e-06	3.32e-06
lagcffi_2	-3.31e-06	6.95e-06	-0.48	0.637	-.0000174	.0000108
lagcffi_3	-4.88e-06	4.14e-06	-1.18	0.245	-.0000133	3.50e-06
lagcff_1	-1.11e-06	2.72e-06	-0.41	0.686	-6.61e-06	4.40e-06
lagcff_2	-2.89e-06	1.59e-06	-1.82	0.077	-6.11e-06	3.27e-07
lagcff_3	-.0000141	2.41e-06	-5.87	0.000	-.000019	-9.24e-06
_cons	13.72091	3.828777	3.58	0.001	5.96307	21.47875
sigma_u	33.804088					
sigma_e	22.058636					
rho	.70135428	(fraction of variance due to u_i)				

TABLE 4.9 CROSS-SECTIONAL REGRESSION RESULTS-1996

Linear regression

Number of obs = **27**  
 Replications = **50**  
 Wald chi2(4) = **169.89**  
 Prob > chi2 = **0.0000**  
 R-squared = **0.8781**  
 Adj R-squared = **0.8560**  
 Root MSE = **0.4974**

logsharepr-e	Observed Coef.	Bootstrap Std. Err.	z	P> z	Normal-based [95% Conf. Interval]	
logeps	.6408819	.2517271	2.55	0.011	.1475058	1.134258
logdps	.4720546	.1905548	2.48	0.013	.0985741	.8455351
logbookvalue	-.2320764	.2406107	-0.96	0.335	-.7036646	.2395118
logtassets	.1166775	.090159	1.29	0.196	-.0600309	.2933859
_cons	1.968777	.6324484	3.11	0.002	.7292006	3.208353



TABLE 4.10 CROSS-SECTIONAL REGRESSION RESULTS-1997

Linear regression	Number of obs	=	26
	Replications	=	50
	wald chi2(3)	=	217.47
	Prob > chi2	=	0.0000
	R-squared	=	0.9244
	Adj R-squared	=	0.9141
	Root MSE	=	0.3417

	Observed Coef.	Bootstrap Std. Err.	z	P> z	Normal-based [95% Conf. Interval]	
logsharepr~e						
logeps	.5601314	.1331223	4.21	0.000	.2992165	.8210463
logdps	.4443862	.1224969	3.63	0.000	.2042968	.6844756
logbookvalue	.1175368	.1791208	0.66	0.512	-.2335335	.4686071
_cons	2.308944	.2566567	9.00	0.000	1.805906	2.811982

TABLE 4.11 CROSS-SECTIONAL REGRESSION RESULTS-1998

Linear regression	Number of obs	=	28
	F( 3, 24)	=	46.58
	Prob > F	=	0.0000
	R-squared	=	0.8734
	Root MSE	=	3.86

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
shareprice						
bookvalueSQD	-.0286401	.0244844	-1.17	0.254	-.0791734	.0218933
dpsSQD	-3.030786	1.09467	-2.77	0.011	-5.290074	-.7714987
epsSQD	4.21526	1.005034	4.19	0.000	2.140972	6.289548
_cons	3.970207	.7270762	5.46	0.000	2.469596	5.470819

TABLE 4.12 CROSS-SECTIONAL REGRESSION RESULTS-1999

Linear regression

Number of obs = 26  
 F( 3, 22) = 346.22  
 Prob > F = 0.0000  
 R-squared = 0.9293  
 Root MSE = 3.6974

shareprice	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
bookvaluesQ	.0454513	.0134082	3.39	0.003	.0176445	.0732581
dpsQ	.9477879	.1711328	5.54	0.000	.5928803	1.302696
epsQ	.5708883	.1864696	3.06	0.006	.184174	.9576026
_cons	2.964654	.560384	5.29	0.000	1.802489	4.126819

TABLE 4.13 CROSS-SECTIONAL REGRESSION RESULTS-2000

. reg shareprice eps dps bookvalue

Source	SS	df	MS	Number of obs =
Model	7369.84315	3	2456.61438	29
Residual	2594.4614	25	103.778456	F( 3, 25) = 23.67
Total	9964.30455	28	355.86802	Prob > F = 0.0000
				R-squared = 0.7396
				Adj R-squared = 0.7084
				Root MSE = 10.187

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
eps	10.34423	5.570183	1.86	0.075	-1.127772	21.81624
dps	-5.084593	8.650901	-0.59	0.562	-22.90146	12.73227
bookvalue	1.072672	.524231	2.05	0.051	-.0070017	2.152346
_cons	-4.4985195	2.822223	-0.18	0.861	-6.310996	5.313957

TABLE 4.14 CROSS-SECTIONAL REGRESSION RESULTS-2001

. reg shareprice epsSQ diffdps diffbookvalue

Source	SS	df	MS	Number of obs =
Model	6749.66014	3	2249.88671	22
Residual	1476.16882	18	82.0093789	F( 3, 18) = 27.43
Total	8225.82896	21	391.706141	Prob > F = 0.0000
				R-squared = 0.8205
				Adj R-squared = 0.7906
				Root MSE = 9.0559

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
epsSQ	2.353574	.3456668	6.81	0.000	1.627355	3.079793
diffdps	.3186343	1.334741	0.24	0.814	-2.485553	3.122821
diffbookva-e	.4051904	.386513	1.05	0.308	-.4068432	1.217224
_cons	6.782737	2.18431	3.11	0.006	2.193672	11.3718

TABLE 4.15 CROSS-SECTIONAL REGRESSION RESULTS-2002

Linear regression	Number of obs = 26
	F( 3, 22) = 485.85
	Prob > F = 0.0000
	R-squared = 0.9547
	Root MSE = 6.3021

dshareprice	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
diffeps	17.39546	1.435225	12.12	0.000	14.41899	20.37193
diffdps	-4.613084	1.287115	-3.58	0.002	-7.282396	-1.943772
diffbookva~e	-.4857588	.2646906	-1.84	0.080	-1.034693	.0631759
_cons	.1297955	1.248042	0.10	0.918	-2.458484	2.718075

TABLE 4.16 CROSS-SECTIONAL REGRESSION RESULTS-2003

Linear regression	Number of obs = 29
	F( 3, 25) = 121.75
	Prob > F = 0.0000
	R-squared = 0.9423
	Root MSE = 13.534

shareprice	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
eps	9.00207	3.225245	2.79	0.010	2.359553	15.64459
dps	18.7303	3.831476	4.89	0.000	10.83923	26.62137
bookvalue	-1.071903	1.025607	-1.05	0.306	-3.18418	1.040373
_cons	.5417367	2.915191	0.19	0.854	-5.462211	6.545684

TABLE 4.17 CROSS-SECTIONAL REGRESSION RESULTS-2004

Linear regression	Number of obs = 34
	F( 3, 30) = 69.94
	Prob > F = 0.0000
	R-squared = 0.9296
	Root MSE = 13.029

shareprice	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
eps	15.94102	1.259162	12.66	0.000	13.36947	18.51257
dps	.9475472	.6834122	1.39	0.176	-.4481668	2.343261
bookvalue	1.147695	.2602006	4.41	0.000	.6162948	1.679096
_cons	-6.527037	1.707015	-3.82	0.001	-10.01323	-3.040848

TABLE 4.18 CROSS-SECTIONAL REGRESSION RESULTS-2005

Source	SS	df	MS	Number of obs = 35		
Model	141724.912	3	47241.6374	F( 3, 31) = 104.41		
Residual	14026.6655	31	452.473082	Prob > F = 0.0000		
				R-squared = 0.9099		
				Adj R-squared = 0.9012		
Total	155751.578	34	4580.92876	Root MSE = 21.271		

dshareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
diffeps	16.56244	1.610569	10.28	0.000	13.27766	19.84722
diffdps	2.497613	1.113237	2.24	0.032	.2271511	4.768074
diffbookva-e	-.0955121	.26674	-0.36	0.723	-.639532	.4485078
_cons	.0849584	3.595685	0.02	0.981	-7.248489	7.418406

TABLE 4.19 CROSS-SECTIONAL REGRESSION RESULTS-2006

Source	SS	df	MS	Number of obs = 35		
Model	185635.355	3	61878.4518	F( 3, 31) = 200.07		
Residual	9587.91673	31	309.287636	Prob > F = 0.0000		
				R-squared = 0.9509		
				Adj R-squared = 0.9461		
Total	195223.272	34	5741.86094	Root MSE = 17.587		

dshareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
diffeps	.6629056	.4282972	1.55	0.132	-.2106124	1.536424
diffdps	20.86911	1.267149	16.47	0.000	18.28474	23.45348
diffbookva-e	.9863532	.2647237	3.73	0.001	.4464457	1.526261
_cons	-.2211762	2.975591	-0.07	0.941	-6.289934	5.847582

TABLE 4.20 CROSS-SECTIONAL REGRESSION RESULTS-2007

Source	SS	df	MS	Number of obs = 36		
Model	263596.414	3	87865.4714	F( 3, 32) = 45.18		
Residual	62235.1314	32	1944.84786	Prob > F = 0.0000		
				R-squared = 0.8090		
				Adj R-squared = 0.7911		
Total	325831.546	35	9309.47273	Root MSE = 44.1		

dshareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
diffeps	16.45059	3.648973	4.51	0.000	9.017872	23.8833
diffdps	8.624827	4.43045	1.95	0.060	-.399704	17.64936
diffbookva-e	.0061965	.0211355	0.29	0.771	-.0368551	.0492481
_cons	.8332533	7.383323	0.11	0.911	-14.20608	15.87259

TABLE 4.21 CROSS-SECTIONAL REGRESSION RESULTS-2008

Linear regression

Number of obs = 36  
 F( 3, 32) = 16.14  
 Prob > F = 0.0000  
 R-squared = 0.7834  
 Root MSE = 20.561

shareprice	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
eps	9.285358	2.959379	3.14	0.004	3.257299	15.31342
dps	3.989099	3.079691	1.30	0.204	-2.284027	10.26222
bookvalue	-.3046017	.1598545	-1.91	0.066	-.6302147	.0210113
_cons	9.844119	3.780836	2.60	0.014	2.142809	17.54543

TABLE 4.22 CROSS-SECTIONAL REGRESSION RESULTS-2009

Source	SS	df	MS	Number of obs = 34	
Model	133104.276	3	44368.092	F( 3, 30) =	54.20
Residual	24559.2204	30	818.64068	Prob > F =	0.0000
				R-squared =	0.8442
				Adj R-squared =	0.8287
Total	157663.497	33	4777.68171	Root MSE =	28.612

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bookvaluesQ	.0100501	.0228727	0.44	0.664	-.0366622	.0567624
dpsQ	.4928938	.2414493	2.04	0.050	-.0002114	.985999
epsQ	.8554676	.2439671	3.51	0.001	.3572203	1.353715
_cons	15.15173	5.591784	2.71	0.011	3.731787	26.57168

TABLE 4.23 CROSS-SECTIONAL REGRESSION RESULTS-2010

Source	SS	df	MS	Number of obs = 37	
Model	188981.295	3	62993.765	F( 3, 33) =	133.71
Residual	15546.7891	33	471.114823	Prob > F =	0.0000
				R-squared =	0.9240
				Adj R-squared =	0.9171
Total	204528.084	36	5681.33567	Root MSE =	21.705

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bookvaluesQ	.01133	.0041286	2.74	0.010	.0029304	.0197296
dpsQ	1.837025	.3431091	5.35	0.000	1.138964	2.535085
epsQ	.1858271	.1584156	1.17	0.249	-.1364718	.5081261
_cons	14.88401	3.992771	3.73	0.001	6.760651	23.00736

TABLE 4.24 CROSS-SECTIONAL REGRESSION RESULTS-2011

Source	SS	df	MS	Number of obs = 36
Model	198688.341	3	66229.447	F( 3, 32) = 108.35
Residual	19560.9891	32	611.280911	Prob > F = 0.0000
				R-squared = 0.9104
				Adj R-squared = 0.9020
Total	218249.33	35	6235.69515	Root MSE = 24.724

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bookvalueSQ	.0009666	.0050825	0.19	0.850	-.009386	.0113193
dpsSQ	1.390163	.3772092	3.69	0.001	.6218132	2.158513
epsSQ	.7666139	.1622033	4.73	0.000	.4362166	1.097011
_cons	6.755418	4.731812	1.43	0.163	-2.882968	16.3938

TABLE 4.25 CROSS-SECTIONAL REGRESSION RESULTS-2012

Source	SS	df	MS	Number of obs = 23
Model	62.0627502	3	20.6875834	F( 3, 19) = 65.96
Residual	5.95894705	19	.313628792	Prob > F = 0.0000
				R-squared = 0.9124
				Adj R-squared = 0.8986
Total	68.0216973	22	3.09189533	Root MSE = .56003

logsharepr-e	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
logeps	.7127071	.2140479	3.33	0.004	.2646997	1.160715
logdps	.423548	.2118192	2.00	0.060	-.0197946	.8668906
logbookvalue	-.1018926	.0974494	-1.05	0.309	-.3058566	.1020714
_cons	3.074138	.2892684	10.63	0.000	2.468692	3.679584

TABLE 4.26 CROSS-SECTIONAL REGRESSION RESULTS-2013

Source	SS	df	MS	Number of obs = 34
Model	1035305.66	3	345101.887	F( 3, 30) = 294.40
Residual	35166.5012	30	1172.21671	Prob > F = 0.0000
				R-squared = 0.9671
				Adj R-squared = 0.9639
Total	1070472.16	33	32438.5504	Root MSE = 34.238

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bookvalueSQ	.0014014	.0003708	3.78	0.001	.000644	.0021587
dpsSQ	1.164009	.2232349	5.21	0.000	.7081022	1.619915
epsSQ	.4121051	.1573933	2.62	0.014	.0906651	.733545
_cons	16.52159	6.335116	2.61	0.014	3.583555	29.45962

TABLE 4.27 CROSS-SECTIONAL REGRESSION RESULTS-2014

Source	SS	df	MS	Number of obs =	35
Model	734870.848	3	244956.949	F( 3, 31) =	52.48
Residual	144691.792	31	4667.47716	Prob > F =	0.0000
				R-squared =	0.8355
				Adj R-squared =	0.8196
Total	879562.64	34	25869.4894	Root MSE =	68.319

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
eps	10.23355	4.672746	2.19	0.036	.7034204	19.76368
dps	27.42222	7.538684	3.64	0.001	12.04697	42.79747
bookvalue	-.3858308	.6254728	-0.62	0.542	-1.661491	.8898294
_cons	-13.8294	14.82455	-0.93	0.358	-44.06428	16.40547

TABLE 4.28 CROSS-SECTIONAL REGRESSION RESULTS-2015

```
. reg shareprice bookvaluesSQ dpssSQ epsSQ
```

Source	SS	df	MS	Number of obs =	33
Model	368553.773	3	122851.258	F( 3, 29) =	88.14
Residual	40421.7836	29	1393.85461	Prob > F =	0.0000
				R-squared =	0.9012
				Adj R-squared =	0.8909
Total	408975.556	32	12780.4861	Root MSE =	37.334

shareprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bookvaluesSQ	.0105401	.0046593	2.26	0.031	.0010108	.0200694
dpssSQ	.4224596	.191709	2.20	0.036	.0303707	.8145486
epsSQ	.3208545	.1798918	1.78	0.085	-.0470655	.6887745
_cons	14.52404	7.512913	1.93	0.063	-.8415947	29.88967

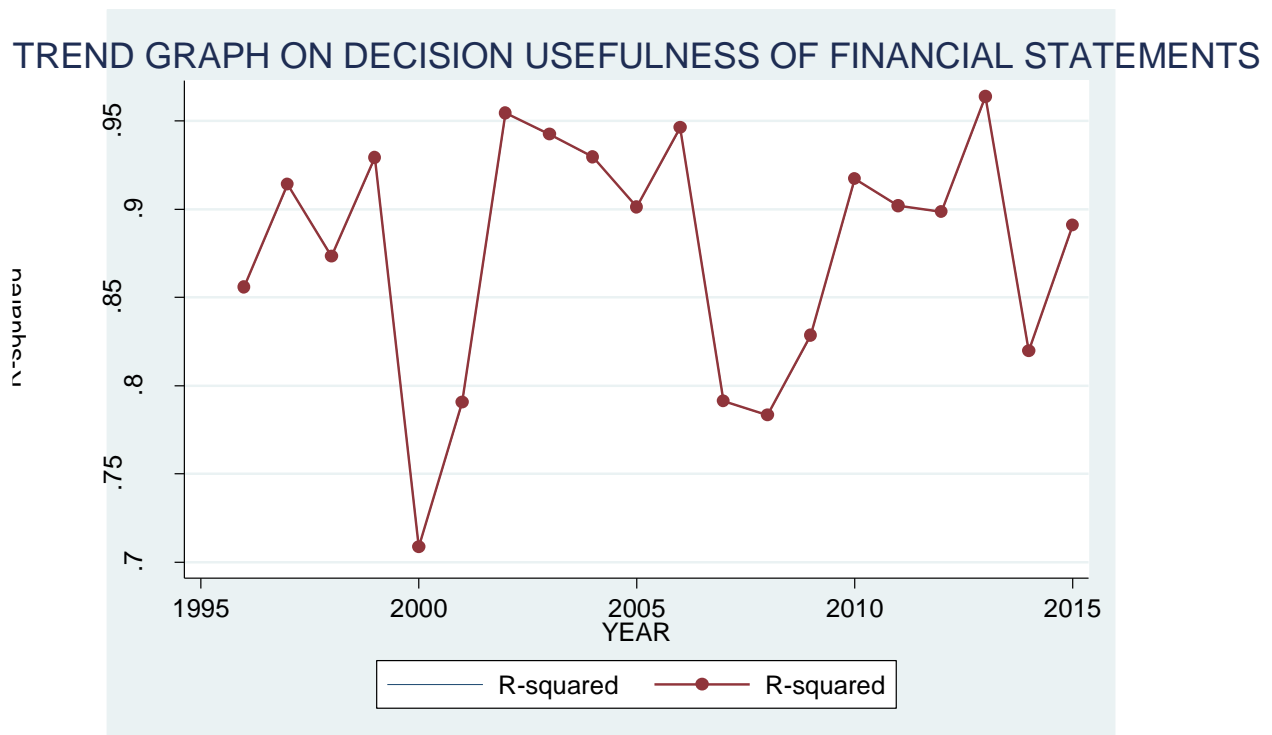


Figure 4.1. Trend on Decision Usefulness of Financial Statement of Selected Quoted Firms in Nigeria



## **APPENDIX IV**

### **NON-FINANCIAL INFORMATION DISCLOSURE INDEX CALIBRATED WITH THE INTERNATIONAL INTEGRATED REPORTING FRAMEWORK**

#### **THEMES:**

(1). REPORT PROFILE (e.g Period Covered)

(2). ORGANISATION OVERVIEW

i. Name of organization, size, and location of operation

ii. Principal activities of firms including products & services

iii. Organizational structure

(3). OPERATING ENVIRONMENT

i. Political environment

ii. Economic wide information

iii. Industry related information

(4). PERFORMANCE REVIEW

(5). BUSINESS/PRODUCT DIVERSIFICATION

(6). NEW PRODUCT/NEW DISCOVERIES

(7). INVESTMENT OPPORTUNITIES

(8). BUSINESS MODEL

(9). STRATEGIC OBJECTIVES

(10). DIRECTORS/MANAGEMENT INFORMATION

i. Directors' Profile

ii. Directors' Appointment/Retirement/Resignation

iii. Directors' Remuneration Policies

(11). INFORMATION ON ICT &R&D

(12). CORPORATE SOCIAL RESPONSIBILITY AND SUSTAINABILITY  
REPORTING

(13). CORPORATE GOVERNANCE REPORTING

(14). FINANCIAL RISK MANAGEMENT REPORTING

(15). AUDITOR'S REPORT (ASSURANCE)

(16). FUTURE PERFORMANCE OBJECTIVE (e.g earnings forecast)

## **APPENDIX V**

### **LIST OF COMPANIES**

1. CHELLARAM PLC
2. JOHN HOLT PLC
3. SCOA NIGERIA PLC
4. JULIUS BERGER NIGERIA PLC
5. NCR NIGERIA PLC
6. 7UP BOTTLING COMPANY PLC
7. CADBURY NIGERIA PLC
8. TRIPPLE GEE &COMPANY PLC
9. NIGERIA ENAMELWARE PLC
10. FLOUR-MILL NIGERIA PLC
11. MORISON INDUSTRIES PLC
12. A.G LENVENTIS PLC
13. NESTLE NIGERIA PLC
14. NORTHERN NIGERIA FLOUR-MILL PLC
15. P.Z CUSSONS NIGERIA PLC
16. GUINNESS NIGERIA PLC
17. AIICO INSURANCE PLC
18. GUARANTY TRUST BANK PLC
19. LASACO ASSURANCE PLC
20. GUINEA INSURANCE PLC
21. NEM INSURANCE PLC
22. UNION BANK OF NIGERIA PLC
23. WEMA BANK PLC

24. BETA GLASS PLC
25. GREIF NIGERIA PLC
26. R.T. BRISCOE NIGERIA PLC
27. JULI PLC
28. LEARN AFRICA PLC
29. OANDO PLC
30. AVON CROWNCAPS AND CONTAINERS NIGERIA PLC
31. MRS OIL NIGERIA PLC
32. UNILEVER NIGERIA PLC
33. VITA FOAM NIGERIA PLC
34. BERGER PAINTS NIGERIA PLC
35. LIVE STOCK FEEDS PLC
36. MAY & BAKER NIGERIA PLC
37. PHARMA DEKO PLC
38. CUTIX PLC
39. FIRST ALUMINIUM NIGERIA PLC
40. LAFARGE AFRICA PLC-WAPCO
41. BOC GASES NIGERIA PLC
42. TOTAL NIGERIA PLC
43. MOBILE OIL NIGERIA PLC
44. ACADEMY PRESS PLC
45. UAC OF NIGERIA PLC
46. TRANS-NATIONWIDE EXPRESS PLC