CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND TO THE STUDY

The need for more transparency in financial data reporting of public and multinational companies has been debated for quite a number of years. Standard setters, Regulators, and Policy-makers appear to have unique interest in the effect of financial reporting on the economy. Palea (2013) noted that this interest is due to the economic consequences associated with financial information. This entails that the prevalence of a high quality financial information system that permits transparency and proper accountability in any country or organization is considered a worthwhile goal.

A recap of the global economic crisis that led to the collapse of large scale promising corporate organizations across the globe equally lend supportive credence towards substantiating some of the reasons behind the massive crusade for the uniformity of accounting frameworks across all jurisdictions worldwide. Africa as a continent was hit unprepared. The experience that followed in Nigeria which led to the fold up of notable Commercial banks and the consequent loss of billions of naira worth of business equity linger fresh in the historic memos of the nation.

Typical corporate victims such as Oceanic Bank, Intercontinental Banks, Afri Bank, Bank PHB et cetera, failed to sail through to survival despite Federal government's timely intervention through the Asset Management Company of Nigeria (AMCON). The imminent implication was that dying public companies got celebrated by deceived and uninformed innocent Investors.

While local investor lamented the complexity of sensitive disclosures in the Financial Statements and tendencies of incomplete disclosures based on the requirements of the old Nigeria Generally Accepted Accounting Principles (Statement of Accounting Standards- SAS), fears of possible loss of investments due to prevalence of different accounting basis for the preparation of Financial Statements in Nigeria and other countries before January 1, 2012 overwhelmed foreign investors. As a result, international Investors began to press for Financial Statements that are based on a uniform but globally accepted Accounting framework that makes financial information comparable across the globe.

Herbert, Ene, and Tsegba (2013) concur to this stressing that global concern for a uniform financial reporting architecture actually gave rise to the movement for the harmonization of financial reporting standards of nation states.

Economically developed continental giants like Europe through the European Union (EU) championed the crusade. Other continents like Australia and Africa later joined in the global move for the discovery of a single Accounting Regulatory Guideline, while the South and North America continents went into deep studies to ascertain the relevance of such sensitive move to their national economies. Nigeria was however indifferent to the study pattern maintained by the North Americans and North Africans, given its timely embrace of the accounting framework uniformity agenda even as the need to restore the confidence of local and foreign investors on the nation's public companies' Financial Statements became inevitable towards boosting her accessibility to foreign capital.

Notably, the pervasive force driving global acceptance of a streamlined/uniform financial reporting framework, for example IFRS, is the globalization of Capital markets following the increasing integration and regionalization of national economies (Herbert, Ene, and Tsegba, 2013). These scholars argued that there exist a virtual unanimity with the proposition that a single global set of Accounting Standards can facilitate easy access to foreign Capital markets, lower the cost of borrowing for companies, attenuate the opportunistic proclivity of corporate financial reporting under weak or poorly regulated environments, and enhance the international comparability of corporate financial reports

Haka and Carcello (2016) also confirmed this stating that when enterprises operate beyond national borders, differences in financial reporting practices between countries can often pose significant problems. Thus, it is worthy to note that comparability of financial reporting practices is the underlying rationale for the adoption of or convergence to a single set of Accounting Standards.

The intervention of the International Accounting Standard Board (formerly the International Accounting Standard Committee) in this respect in April 2001 led to the birth of a Principle-Based set of high quality International Accounting Standards called International Financial Reporting Standards (IFRS).

The new global Accounting guidelines is believed not only to have achieved the convergence dream of coordinating all accounting practices obtainable across different national jurisdictions (harmonisation and comparability) by using one financial reporting framework but has also paved room for more extensive disclosures in the Financial Statements so as to ease foreign and local investors' understanding and interpretation of the figures.

Callao, Ferrer, Jarne & Laínez (2010) upheld this view arguing that the introduction of a uniform accounting regime is expected to ensure greater comparability and transparency of financial reporting around the world. The essence of this sensitive intervention, according to Ball (2008), is drawn from the fact that reliance of potential drivers of Capital markets on the disclosed figures of companies' financial records depend largely on how well such financial data reflect the companies' financial position and performance during investment decision making process. This implies that in the absence of investors' confidence on an entity's accounting information, the integrity of such financial information could be considered anything but a questionable one.

Accordingly, the understanding that the quality of financial reports is measured within the scope of four key qualitative characteristics of financial information that are embedded within the *Framework for the Preparation and Presentation of Financial Statements* as issued and amended by the International Accounting Standards Board (IASB) cannot be overemphasized.

These qualitative characteristics are categorized into fundamental qualities (*Relevance and faithful representation*) and enhancing qualities (*comparability and understandability*). For while *Relevance and faithful representation* (formerly reliability until 2010) lay more descriptive emphasis on what the integrity of disclosed financial information entails, *comparability and understandability* are considered the attributes that make the accounting information useful to users (Onulaka, 2014).

Apparently, the discourse of financial data integrity and the transparency of Financial Statements appear to be more meaningful when treated within the scope of faithful representation during financial reporting. Integrity as a word is used to mean

something *"complete, unbroken, unimpaired, sound, honest, and sincere"* to the extent that Idialu (2014) posits that accounting information that is described as being *"accurate, complete and fair"* is most likely to be seen as trustworthy and faithfully represented. It is important that accounting information possess these qualities due to its significance to individuals (Haka and Carcello, 2016) for essential investing or managerial decision making purposes.

It can almost be said that financial crisis that ravaged the global Capital markets was mainly due to insufficiency of or the absence of trustworthiness in financial information disclosed (Bahrami and Bejan, 2015). This in essence means that, disclosure requirements now dictates the quality and quantity of information that must be provided to market participants and the general public (Lepădatu and Pîrnău, 2009). Moreso, Trites (2013) maintains that for the best decisions to be made in the Capital market, users need to have confidence that the financial data disclosed for their reliance possess commendable integrity and are faithful represented in the Financial Statements.

It is on this premise that Mehta and Bhavani (2017) and Aris, Othman, Arif, Abdul Malek and Omar (2013) advocate for the joint application of the Benford's Law and the Beneish Predictive model (hereafter referred to as B & B models) in the assessment of the integrity status of the financial data disclosed by public companies. Amiram, Rouen and Bozanic (2015), Nigrini (2009). Tota, Aliaj and Lamçja (2016), and Simkin (2010) agree with this stressing that applying the Benford's Law will help Auditors ascertain whether financial data of claimed transactions are natural as recorded.

Although Aljifri (2012) argues that the adoption of IFRS in jurisdictions will heighten tendencies of irregularities of accounting numbers owing to its permissive provision for the use of professional judgment, evidences from Tota, Aliaj and Lamçja (2016) show that implicating outcome of Benford's Law application has often suggested the need for further analysis using suitable but complementary anti-falsified financial data predictive ratio as the Beneish Predictive model.

The supportive opinion of Lepădatu and Pîrnău, (2009) in this regard also contradicts the views of Aljifri (2012) contending that the adoption of IFRS will boost, encourage and facilitate the transparency and proper interpretation of Financial Statements towards minimizing financial improprieties often perpetrated by persons in position of trust. The above conflicting views have drawn the attention of this study. The disturbing question is has the quality and integrity of companies' published financial data been improved as a result of her compliance to the guidelines of IFRS? Rather than offer a direct feedback, Coenen (2011) advised that users of financial information should be more skeptical about the quality status of disclosed financial data before placing reliance on them regardless of the existing trustworthiness profile of the reporting management.

It is against this backdrop that the study intends to conduct a comprehensive evaluation of the published financial data of selected public listed manufacturing companies in Nigeria towards ascertaining whether or not they have been faithfully represented to meet a proven level of integrity that reflects the interest of end users of such financial information.

1.2 STATEMENT OF THE PROBLEMS

Apparently, it appears many key players, stakeholders, governmental authorities, and other patriots of the Capital markets did not understand all along the relative relevance of integrity/faithful representation of disclosed accounting information in the sustenance of the going concern status of corporate organisations and the global economy until the fall of ENRON, Worldcom, Global Crossing among others, became imminent and unavoidable. The Nigerian economy and her Capital market was not an exception giving the magnitude of failure that later trailed the departure of promising and publicly listed money deposit banks between 2008 and 2013.

Indeed, persuasive, enticing but incomplete and dishonest financial data disclosures could be very costly and devastating on the long run. Statistics have shown that this cost US businesses about US$600 billion annually (Wenfei, 2015). Wenfei (2015) believes that this deceptive approach cost businesses around the world 20%-35% of their operating revenue. The outcome effect of several corporate failures on the

Nigeria Capital market between 2008 and 2011 which were largely due to the presentation of misleading Financial Statements by Chief Executive Officers and Chief Financial Officers of public companies was devastative.

As at April 2014 through May 2015 (after the nation's GDP rebasing exercise of the Goodluck Jonathan administration), Nigeria was globally applauded as one of the fastest growing economy in the world and the largest economy in Africa only to plunge into economic recession by late 2015 under President Muhammed Buhari administration. What a contradiction!

Today, the adoption and implementation of a new but globally acknowledged financial reporting architecture called IFRS appear to have thrown observable life and confidence back into the mainstream of accounting practice in Nigeria- financial reporting as well as the nation's Capital market. However, the logical claims that IFRS paves room for the use of professional judgment when making choices on how existing and acceptable Accounting principles are applied even though such allowance could increase the risk of fraud in the Financial Statements has drawn the attention of this study on the need to discretely ascertain whether or not the above claims are empirically obtainable.

It bothers this study, that although Nigeria has witnessed five (5) years of financial reporting events that are based on the new financial reporting regime (January 1, 2012 – December 31, 2016), little effort has been made scholarly in Accounting Research/ Academics to discretely determine whether or not the adoption of IFRS has thus far improved the quality and faithful representational capacity of Financial Statements' data disclosed annually by publicly listed companies in Nigeria to investors and other players in the Nigeria Capital markets especially when comparison is made between selected public listed manufacturing companies pre and post IFRS financial data disclosures. To what extent has this sensitive financial reporting regulatory transformation contributed in minimizing these visible impasses of companies Executives, which in times past grossly undermined the financial reporting integrity of corporate enterprises in the Nigerian Capital Market?

1.3 OBJECTIVES O F THE STUDY

The general objective of this research work is to closely evaluate the integrity of disclosed financial data of International Financial Reporting Standards' reporting practices in Nigeria using recognized assessment criteria and models. Other specific objectives considered in this study are:

1. To ascertain the effectiveness of the Benford's Law in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies.
2. To determine whether the Beneish Model is an effective complementary evaluative tool in assessing the faithfully representation of financial data disclosures of pre and post IFRS Financial Statements of selected public manufacturing companies in Nigeria.
3. To determine to whether digit deviation from Benford's Law signals tendencies of unfaithful representation of financial data disclosures in pre and post IFRS financial reports of Nigerian companies.
4. To determine whether the Ratios outcome of the test of financial data faithful representation using the Beneish Predictive model significantly differ in the pre and post IFRS financial reporting regimes of selected public listed manufacturing companies in Nigeria.
5. To ascertain whether the implications of the Benford's law digital analyses of the pre and post IFRS financial reporting practices of selected Nigerian manufacturing companies differ significantly.
6. To determine whether the Beneish integrity scores of disclosed financial data of public listed manufacturing companies in Nigeria differ significantly in the pre and post IFRS financial reporting periods.

1.4 RESEARCH QUESTIONS

1. How is the Benford's Law effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies?

2. How is the Beneish Model significant in assessing the faithful representation of financial data disclosures of pre and post IFRS Financial Statements of selected public manufacturing companies in Nigeria?
3. To what extent does digit deviation from Benford's Law signal tendencies of unfaithful representation of financial data disclosures in pre and post IFRS financial reports of selected Nigerian manufacturing companies?
4. How does the Ratios outcome of the test of financial data faithful representation using the Beneish Predictive model significantly differ in the pre and post IFRS financial reporting regimes of selected public listed manufacturing companies in Nigeria?
5. How does the implication of the Benford's law digital analyses of the pre and post IFRS financial reporting practices of selected Nigerian manufacturing companies differ?
6. What significant difference exist in the Beneish integrity scores of pre and post disclosed financial data of public manufacturing companies in Nigeria?

1.5 FORMULATION OF RESEARCH HYPOTHESES

Based on the above research questions, the following research hypotheses envisaged, as stated in their null status.

1. H_0: Benford's Law is not significantly effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies.

2. H_0: Beneish Model is not significant in assessing the faithful representation of financial data disclosures of pre and post IFRS Financial Statements of selected public manufacturing companies in Nigeria.

3. H_0: Digit deviation from Benford's Law does not signal tendencies of unfaithful representation of financial data disclosures in pre and post IFRS financial reports of selected Nigerian manufacturing companies.

4. H_0: Ratios outcome of the test of financial data faithful representation using the Beneish Predictive model does not differ significantly in the pre and post IFRS financial reporting regimes of selected public listed manufacturing companies in Nigeria.

5. H_0: Implications of the Benford's law digital analyses of the pre and post IFRS financial reporting practices of selected Nigerian manufacturing companies do not differ significantly.

6. H_0: Beneish integrity scores of pre and post disclosed financial data of public manufacturing companies in Nigeria do not differ significantly.

1.6 SIGNIFICANCE OF THE STUDY

The outcome of this study is considered exceptionally unique and of great relevance in the following way:-

First, it is a ready blueprint for practicing and prospective Forensic Accountants and Auditors, Internal Auditors and the Accounting Academics in Nigeria towards securing and sustaining the integrity of published Financial Statements prepared on the bases of IFRS guidelines.

Secondly, the outcome of this research can help the International Accounting Standard Board (IASB) and the Financial Accounting Standard Board (FASB) jointly appraise significant but sensitive segments and classifications of corporate Financial Statements that have continued to fail the conformity test of faithful representation of the models utilized, for discussion and relevant IFRSs amendment purposes.

Thirdly, it can assist the Financial Reporting Council of Nigeria and the IASB to conduct a five year comprehensive assessment on the impact of the adoption of IFRS on the quality of financial reporting practices in Nigeria so far as well as on the quality of financial information made available to local and foreign patriots of the Nigerian Capital market during these five (5) years of the implementation and compliance to IFRS framework in Nigeria.

Fourthly, it serves as a reliable but fallback guideline to Internal Auditors who are in the employment of corporate organizations and in the position of ensuring that preparers' compliance attitude to the requirements of IFRS are not ceded with obsolete integrity.

Fifthly, this research work is a provisional but practical accounting skill manual that avails Accounting students, professional Auditors, Forensic Accountants, the Accounting Academics, and lovers of the Accounting profession/research, the

onerous privilege of understanding how skepticism, creativity, and productive innovation could be inculcated into analytical procedures during concise evaluation of corporate financial information of business enterprises listed in the Nigeria Capital market.

Sixthly, this knowledge package, without doubt, rekindles the fading interest of Investors, owners of businesses and users of financial information into possessing the relevant skills that effortlessly enables them to substantiate at ease, the extent of integrity the financial data often submitted or made public to them really possesses.

Seventhly, it assists the Accounting Academics and Researchers to acquire and develop the relevant knowledge necessary for the right adoption and joint application of two or more digital analyses models.

And lastly, this study will no doubt, serve as a pointer to future research and emerging issues in the field of financial accounting/reporting practice and audit functions in Nigeria.

1.7 SCOPE OF THE STUDY

The scope of this research borders on evaluating the integrity level of financial data content of Financial Statements published in the pre and post IFRS financial reporting regimes of Nigeria.

Accordingly, six (6) research questions were raised in this study and these lay great emphasis on two major mission areas of the International Financial Reporting Standards (IFRS)- *faithful representation and comparability*, which are categorized either as fundamental qualities (faithful representation) or as enhancing qualities (comparability). While research question one maintains sole focus on the 'faithful representation' aspect of corporate financial information, research questions two (2) to six (6) are restricted to both the faithful representation and comparability qualities which shed more commendable light on the integrity level of financial data made available to Users and potential Investors for decision making purposes.

Unlike many prior studies where research of this kind is often pursued with clear reference to Value Relevance, this study is prosecuted to the contrary. This is because, the summary goal of this research does not point to the after effect of corporate

financial information integrity on companies' share prices in the Capital market but on the effort to substantiate whether a functional difference exist (in line with the mission of IFRS- production of high quality and comparable Financial Statements across different global jurisdiction) in the integrity level of publicly disclosed financial data of corporate organizations before and after the adoption of IFRS in Nigeria.

With the research area centered in the Nigerian Stock Exchange market, all industrial and manufacturing companies as categorized under the Consumer goods and services, Healthcare, Industrial goods, Natural resources, Construction, ICT, and Oil & gas sectors of the Capital Market were purposively sampled using the quantitative approach via the Benford's law and the Beneish Model application.

The population of the study was made up of the Ninety Seven (97) public manufacturing companies listed on the floor of the Nigerian Stock Exchange as at 2016 (NSE Fact Book 2016). However, a total of Fifty (50) public listed manufacturing companies whose Financial Statements for the years 2006 – 2016 were not only available but accessible, were judgmentally sampled in the study from the Agriculture, Conglomerate, Consumer Goods and Services, Healthcare, Industrial Goods, Natural Resources, Construction, and Oil & Gas Sectors.

1.8 LIMITATIONS OF THE STUDY

Non availability of financial reports to sampled Nigerian companies online and at the Nigerian Stock Exchange libraries section was a major constraint. A situation whereby pages of available Financial Statements bearing sensitive financial data disclosures needed for this research were missing from their Annual report booklets was a setback too.

However, we laud the rich support received from Proshare, Naiarametrics, Issu, Nigerian Stock Exchange official website which paid off in the successful completion of this complex research work.

1.9 OPEARTIONAL DEFINITION OF TERMS

i. ***Accounting standardization:*** the underlying processes from the time of consideration of accounting issues deserving treatment to the point of development of Accounting standards, release of exposure drafts for comments, and the issuance of the Accounting standards for implementation.

ii. ***Asset Management Company of Nigeria (AMCON):*** created by an Axt of the National Assembly, Federal republic of Nigeria with the express role of taking over non performaung loans of listed public Nigerian companies so as to exonerate such firms from possible financial distress in the future.

iii. ***Beneish Predictive model:*** A regression model first discovered in 1997 by Messod Beneish but later modified in 1999 for the prediction and detection of possible areas in the financial reports that may lack integrity and faithful representation.

iv. ***Benford's Law:*** Digital analysis initiated by Simon Newcomb but discovered and developed by Frank Benford for measuring the extent of deviation in a given set of distributed digit numbers between what is observed and what is expected.

v. ***Comparability:*** assessing similarities of Information prepared on the same basis about an enterprise at across different point in time or across different enterprises in the same industry or different companies in the same industry but across different countries.

vi. ***Faithful representation:*** entails that the accounting numbers and descriptions agree with the organizational events that they purport to represent.

vii. ***Financial data or information:*** figures or amount disclosed by an entity as a representation of business events that transpired in the organization during a given period of time.

viii. ***Financial data integrity:*** This is the representational faithfulness of disclosed accounting information to the published financial data of an organisation

ix. ***Financial reporting architecture:*** a blueprint developed and issued as accounting standards and guidelines for corporate organisations' due compliance in their observance of financial reporting to users of financial information e;g IFRS.

1.10 ACRONYMS

AMCON-	Asset Management Company of Nigeria
B & B -	Benford's Law and Beneish Model
CBN -	Central Bank of Nigeria
EU -	European Union
FRCN -	Financial Reporting Council of Nigeria
GDP -	Gross Domestic Product
GSE -	Ghana Stock Exchange
IASB -	International Accounting Standard Board
IASC -	Internatiobal Accounting Standard Committee
IFRS -	International Financial Reporting Standard
NDIC -	Nigerian Deposit Insurance Commission
NG GAAP -	Nigerian Generally Accepted Accounting Principles
NSE -	Nigeria Stock Exchange
SEC -	Securities Exchange Commission

CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 CONCEPTUAL REVIEW

2.1.1 Concept of Financial Reporting and Financial Information

Financial reporting plays an increasingly significant role in the global economy as a basic source of financial information about economic entities (Strojek-Filus, 2013). Its regulation is one of the mechanisms used to promote the operation of Securities/Capital markets (Palea, 2013).

Effective regulation of accounting information often maintain emphasizes on the need to ensure at all times that users of Financial Statements are availed the opportunity of accessing minimum but quality amount of financial information that is useful to them, especially at making decisions geared towards securing their interest in the reporting entity. Until 2003 when the Nigerian Accounting Standards Board Act was enacted which made it mandatory for Accountants preparing corporate reports to adhere strictly to the provisions of the Accounting Standards issued by the Board, the Standards were treated as just generally accepted accounting principles (Adetunji, Mamuda, and Wula, 2014).

The need to secure and sustain the practice of faithful representation of business stewardship among corporate organizations can perhaps be traced to the complexity of modern day business world that began in the 18th century when industrial revolution brought in large scale production, steam power, improved facilities and better means of communication (Ndibe and Okoye, 1998; Summer, 2016).

This resulted in the origin of Joint Stock form of organizations such that shareholders who contributed their money as capital to these companies did not run or have control over the day to day working of the organization (Summer, 2016). Yet, these Shareholders were often interested in knowing what happened to their investment, its growth situation at every point in time and its effect on the financial position of the company they owned (Maverick, 2015). This of course led to the formation of what today's modern business now refer to as the Board of Directors, who are accorded

such powers that makes them responsible for the presentation of the business financial report to the shareholders at the end of each financial year (Summer, 2016).

Events that later followed regarding the trust and confidence of shareholders on the financial report presented by the Board of Directors still trails the Accounting profession till date, thus the inevitable need for an independent person who would check the accounts and report back to the shareholders on the accuracy of the accounts and the safety of their investment. This was the very beginning of audit practice among businesses across the globe.

Audit function has evolved in response to a perceived need of individuals or groups in society who seek information or reassurance about the conduct or performance of others in which they have an acknowledged and legitimate interest Today, the usefulness of any form of financial reporting practices across the globe underlies either all IASB's or FASB's conceptual framework.

2.1.2 Objectives of Financial Reporting

Financial Statements are structured representation of the financial positions and financial performances of entities. The objective of Financial Statements is to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions. Financial statements also show the results of the management's stewardship of the resources entrusted to it.

To meet this objective, Financial Statements should provide information about an entity's:

a. Assets;
b. Liabilities;
c. Equity;
d. Income and expenses, including gains and losses;
e. Contributions by and distributions to owners in their capacity as owners; and
f. Cash flows.

These information, along with other information in the notes, assist users of Financial Statements in predicting the entity's future cash flows and, in particular, their timing and certainty.

2.1.3 Qualitative Characteristics of Financial Information

In view of the improved Conceptual Framework for financial reporting produced by IASB and FASB in 2008 and 2010 (some changes were made in 2010) through their joint project that started in September 2002, the qualitative characteristics of financial information have taken a new shape. According to Strojek-Filus, (2013), this has been categorized into two (2) namely

1. Fundamental qualitative characteristics
2. Enhancing qualitative characteristics

1. Fundamental qualitative characteristics of financial information include:
   a. Relevance
   b. Faithful representation

2. Enhancing qualitative characteristics include:
   a. Comparability
   b. Verifiability
   c. Timeliness
   d. Understandability

2.1.3.1 Relevance: To be relevant, accounting information must be capable of making a difference in a decision. If certain information has no bearing on a decision, it is irrelevant to that decision. Relevant information helps users make predictions about the ultimate outcome of past, present, and future events; that is, it has predictive value.

Relevant information also helps users confirm or correct prior expectations. It has confirmatory/feedback value. For information to be relevant, it must also be available to decision makers before it loses its capacity to influence their decisions (Beest, Braam and Boelens, 2009). Thus timeliness is a primary ingredient. For information

to be relevant, it should have predictive or feedback value, and it must be presented on a timely basis.

2.1.3.2 Representational faithfulness: Faithful representation is the second fundamental quality that makes accounting information useful for decision-making. This means that the numbers and descriptions represent what really existed or happened. The accounting numbers and descriptions agree with the resources or events that these numbers and descriptions purport to represent. This is often viewed from the area of completeness of financial disclosures, its neutrality, and assurance that the same is free from material errors. Faithful representation is a necessity because most users have neither the time nor the expertise to evaluate the factual content of the information.

2.1.3.2a Completeness: Completeness means that all the information that is necessary for faithful representation is provided. An omission can cause information to be false or misleading and thus not be helpful to the users of financial reports.

***2.1.3.2b Neutrality*:** This entails that a company cannot select information to favour a group of interested parties over another. Factual, truthful, unbiased information must be the overriding consideration. Neutrality in standard setting has come under increasing attack. Some argue that FASB and IASB should not be issued if they cause undesirable economic effects on an industry or company. However many disagree with this notion. Standards must be free from bias or credibility of the financial statements will be lot. Without credible financial statements, individuals will no longer use this information

2.1.3.2c Free from Material Error: Finally, the desire to keep any financial assessments free from error can only be done by checking the work. Unfortunately, this is something that cannot be completely eradicated, as humans make mistakes, but it does happen, and all that can be hoped for is that the information is accurately portrayed and reported.

However, certain qualities are usually viewed as the enhancing qualities of any good Financial Statement. These are as enumerated below:

2.1.3.3 Comparability. Information about an enterprise is more useful if it can be compared with similar information about another enterprise (comparability) and with similar information about the same enterprise at other points in time (consistency) (Deloitte, 2017b). Information that has been measured and reported in a similar manner for different enterprises is considered comparable.

Comparability enables users to identify the real similarities and differences in economic phenomena because these differences and similarities have not been obscured by the use of non-comparable accounting methods. For example, the accounting for pensions is different in the United States of America (USA) and Japan. In the United States of America, pension cost is recorded as it is incurred, whereas in Japan there is little or no charge to income for these costs. As a result, it is difficult to compare and evaluate the financial results of General Motors or Ford to Nissan or Honda. Also, resource allocation decisions involve evaluations of alternatives; a valid evaluation can be made only if comparable information is available.

Another type of comparability/consistency is present when a company applies the same accounting treatment to similar events, from period to period. Through such application, the company shows consistent use of accounting standards. The idea of consistency does not mean, however, that companies cannot switch from one accounting method to another. A company can change methods, but it must first demonstrate that the newly adopted method is preferable to the old. If approved, the company must then disclose the nature and effect of the accounting change, as well as the justification for it, in the financial statements for the period in which it made the change. When a change in accounting principles occurs, the auditor generally refers to it in an explanatory paragraph of the audit report. This paragraph identifies the nature of the change and refers the reader to the note in the financial statements that discusses the change in detail

2.1.3.4 Verifiability: This is demonstrated when independent measurers using the same measurement methods, obtain similar results. For example, would several independent auditors come to the same conclusion about a set of financial statements? If outside parties using the same measurement methods arrive at different conclusions, then the statements are not verifiable. Auditors could not render an opinion on such

statements. Verifiability occurs when independent measurers using the same methods, obtain similar results.

Verifiability occurs in the following situations.

1. Two independent Auditors count Anheuser-Busch InBev NV's (BEL) inventory and arrive at the same physical quantity amount for inventory. Verification of an amount for an asset therefore can occur by simply counting the inventory (referred to as *direct verification*).

2. Two independent Auditors compute Anheuser-Busch InBev NV's (BEL) inventory value at the end of the year using the FIFO method of inventory valuation. Verification may occur by checking the inputs (quantity and costs) and recalculating the outputs (ending inventory value) using the same accounting convention or methodology (referred to as *indirect verification*).

2.1.3.5 Timeliness. Timeliness means having information available to decision-makers before it loses its capacity to influence decisions. Having relevant information available sooner can enhance its capacity to influence decisions, and a lack of timeliness can rob information of its usefulness. For example, if UBA Nigeria Plc during her amalgamation period had waited to report its company and group results until say five months after the heat period in the Nigerian Capital market, the information would be much less useful to potential investor for their decision-making purposes regarding the bank's Initial public offer (IPO).

2.1.3.6 Understandability. Decision-makers vary widely in the types of decisions they make, how they make decisions, the information they already possess or can obtain from other sources, and their ability to process the information. For information to be useful, there must be a connection (linkage) between these users and the decisions they make. This link, understandability, is the quality of information that lets reasonably informed users see its significance. Understandability is enhanced when information is classified, characterized, and presented clearly and concisely.

2.1.4 IAS 1 Minimum Requirements and Quality Financial Reporting

International Accounting Standard 1 (IAS 1)- *Presentation of Financial Statements* is an international financial reporting standard adopted by the International Accounting Standards Board (Deloitte, 2017a). It lays out the guidelines for the presentation of financial statements and sets out minimum requirements of their content; it is applicable to all general purpose financial statements that are based on International Financial Reporting Standards (IFRS).

IAS 1 was originally issued by the International Accounting Standards Committee in 1997, superseding three standards on disclosure and presentation requirements,[1] and was the first comprehensive Accounting Standard to deal with the presentation of financial standards. It was adopted by the IASB in 2001 and as of 2012 the Standard was last amended in June 2011. These amendments took effect from July 1, 2012.

IAS 1 sets out the purpose of Financial Statements as the provision of useful information on the financial position, financial performance and cash flows of an entity, and categorizes the information provided into assets, liabilities, income and expenses, contributions by and distribution to owners, and cash flows (Deloitte, 2017a). It lists the set of statements such as the Statement of Financial Position and Statement of Profit and Loss which together comprise the Financial Statements.

IAS 1 also elaborates on the following features of the Financial Statements:

i. Fairly presented and compliant with IFRSs;
ii. Prepared on a going concern basis;
iii. Prepared using the accrual basis of accounting;
iv. Material classes presented separately;
v. Does not offset assets and liabilities;
vi. Prepared at least annually;
vii. Includes comparison with previous periods; and
viii. Presented consistently across periods

2.1.4.1 Structure and Content of IAS No. 1 guideline

IAS 1 lists the line items that, as a minimum, are to be included in a general purpose Financial Statement (Silvia, 2017). The statements lists requirements regarding the classification of information such as requiring that current liabilities be listed separately, as well as details on when to classify an item as a liability or as current or as opposed to non-current. It also sets out requirements regarding the notes to the Financial Statements, including disclosures on accounting policy and information on assumptions used (Deloitte, 2017a).

2.1.4.2 IAS 1 Recent amendments

The International Accounting Standard (IAS) 1 No was amended in 2007 to reflect a change in terminology that also affected other accounting standards. The changes include the following.

	Term before amendment	***Term after amendment***
i.	Balance sheet	Statement of financial position
ii.	Cash flow statement	Statement of cash flows
iii.	Income statement	Statement of comprehensive income

The IASB amended the statement again in 2011 when it, among several other changes, added a requirement that items in Other Comprehensive Income be grouped based on their potential reclassifiability to Profit and Loss. These amendments, when previously proposed, led to the Institute of Chartered Accountants in England and Wales advising that the approach of making small changes to one standard can have negative effects.

Table 2.1: Historical timeline in the issue and amendment of IAS No. 1

Date	**Development**	**Comments**
March 1974	Exposure Draft E1 *Disclosure of Accounting Policies*	
January 1975	IAS 1 *Disclosure of Accounting Policies* issued.	Operative for periods beginning on or after 1 January 1975.
June 1975	Exposure Draft E5 *Information to be Disclosed in Financial Statements* published.	
October 1976	IAS 5 *Information to be Disclosed in Financial Statements* issued.	Operative for periods beginning on or after 1 January 1975.
July 1978	Exposure Draft E14 *Current Assets and Current Li abilities* published.	
November 1979	IAS 13 *Presentation of Current Assets and Current Liabilities* issued.	Operative for periods beginning on or after 1 January 1981.
1994	IAS 1, IAS 5, and IAS 13 re for mat ted.	
July 1996	Exposure Draft E53 *Presentation of Financial Statements* published.	
August 1997	IAS 1 *Presentation of Financial Statements* (1997) issued. (Supercedes IAS 1 (1975), IAS 5, and IAS 13 (1979)).	Operative for periods beginning on or after 1 July 1998.
18 December 2003	IAS 1 *Presentation of Financial Statements* (2003) issued.	Effective for annual periods beginning on or after 1 January 2005.
18 August 2005	Amended by *Amendment to IAS 1 — Capital Disclosures.*	Effective for annual periods beginning on or after 1 January 2007.
16 March 2006	Exposure Draft *Proposed Amendments to IAS 1 – A Revised Presentation* published.	Comment deadline 17 July 2006.

Source: Deloitte (2017).

Table 2.1: Historical timeline in the issue and amendment of IAS No. 1 continued

22 June 2006	Exposure Draft *Financial Instruments Puttable at Fair Value and Obligations Arising on Liquidation* published.	Comment deadline 23 October 2006.
6 September 2007	IAS 1 *Presentation of Financial Statements* (2007) issued.	Effective for annual periods beginning on or after 1 January 2009.
14 February 2008	Amended by *Puttable Financial Instruments and Obligations Arising on Liquidation.*	Effective for annual reporting periods beginning on or after 1 January 2009
22 May 2008	Amended by *Annual Improvements to IFRSs 2007* (classification of derivatives as Current or Non-current).	Effective for annual reporting periods beginning on or after 1 January 2009
16 April 2009	Amended by *Improvements to IFRSs 2009* (classification of liabilities as Current).	Effective for annual periods beginning on or after 1 January 2010.
6 May 2010	Amended by *Improvements to IFRSs 2010* (clarification of Statement of Changes in Equity).	Effective for annual periods beginning on or after 1 January 2011.
27 May 2010	Exposure Draft ED/2010/5 *Presentation of Items of Other Comprehensive Income* published.	Comment deadline 30 September 2010.
16 June 2011	Amended by *Presentation of Items of Other Comprehensive Income*	Effective for annual periods beginning on or after 1 July 2012.
17 May 2012	Amended by *Annual Improvements 2009-2011Cycle* (comparative information).	Effective for annual periods beginning on or after 1 January 2013.
18 December 2014	Amended by *Disclosure Initiative (Amendments to IAS 1)* .	Effective for annual periods beginning on or after 1 January 2016.

Source: Deloitte (2017).

2.1.5 Main Components of Financial Statements

There are five main components of a quality Financial Statement. These are as enumerated below.

2.1.5.1 Statement of Financial Position (SFP)

The elements directly related to the measurement of SFP include:

i. ***Asset:*** An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

ii. ***Liability:*** A liability is a present obligation of the entity arising from the past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits, i.e. assets.

iii. ***Equity:*** Nominal equity is the nominal residual interest in the nominal assets of the entity after deducting all its liabilities in nominal value. The financial performance of an entity is presented in the Statement of Comprehensive Income, which consists of the Income Statement (Statement of Profit/Loss) and the statement of Other Comprehensive Income (usually presented in two separate statements). Financial performance includes the following elements (which are recognised in the income statement or other comprehensive income as required by the applicable IFRS standard):

iv. ***Revenues:*** increases in economic benefit during an accounting period in the form of inflows or enhancements of assets, or decrease of liabilities that result in increases in equity. However, it does not include the contributions made by the equity participants (for example owners, partners or shareholders).

v. ***Expenses:*** decreases in economic benefits during an accounting period in the form of outflows, or depletions of assets or incurrences of liabilities that result in decreases in equity. However, these don't include the distributions made to the equity participants.

2.1.5.2 Other Comprehensive Income (OCI)

Results recognized captured here are limited to the following specific circumstances:

i. Re-measurements of defined benefit assets or liabilities (as defined in IAS 19).

ii. Increases or decreases in the fair value of financial assets classified as available for sale (with the exception of impairment losses)(as defined in IAS 39).

iii. Increases or decreases resulting from the application of a revaluation of property, plant and equipment or intangible assets.

iv. Exchange differences resulting from the translation of foreign operations (subsidiary, associate, joint arrangement or branch of a reporting entity, the activities of which are conducted in a country or currency other than those of the reporting entity) according to IAS 21.

v. The portion of the gain or loss on the hedging instrument in a cash flow hedge (or a hedge of a net investment in a foreign operation, as this is accounted similarly) that is determined to be an effective hedge.

2.1.5.3 The Statement of Changes in Equity (SCE)

This consists of a reconciliation of the changes in equity in which the following information is provided:

i. Total comprehensive income for the period, showing separately the total amounts attributable to owners of the parent and to non-controlling interests;

ii. For each component of equity, the effects of retrospective application or retrospective restatement recognized in accordance with IAS 8; and

iii. For each component of equity, a reconciliation between the carrying amount at the beginning and the end of the period, separately disclosing changes resulting from:

- Profit or loss;
- Other comprehensive income; and
- Transactions with owners in their capacity as owners, showing separately contributions by and distributions to owners and changes in ownership interests in subsidiaries that do not result in a loss of control.

2.1.5.4 Statement of Cash Flows

a. ***Operating cash flows:*** the principal revenue-producing activities of the entity and are generally calculated by applying the indirect method, whereby profit or loss is adjusted for the effects of transaction of a non-cash nature, any deferrals or accruals of past or future cash receipts or payments, and items of income or expense associated with investing or financing cash flows.

b. ***Investing cash flows:*** the acquisition and disposal of long-term assets and other investments not included in cash equivalents. These represent the extent to which expenditures have been made for resources intended to generate future income and cash flows. Only expenditures that result in a recognised asset in the statement of financial position are eligible for classification as investing activities.
c. ***Financing cash flows:*** activities that result in changes in the size and composition of the contributed equity and borrowings of the entity. These are important because they are useful in predicting claims on future cash flows by providers of capital to the entity.

2.1.5.5 Notes to the Financial Statements

These shall contain:

i. Information about the basis of preparation of the financial statements and the specific accounting policies used.
ii. Information required by IFRSs that is not presented elsewhere in the financial statements; and
iii. Information that is not presented elsewhere in the financial statements, but is relevant to an understanding of any of them.

2.1.6 Uniform Accounting Standards

The consequence of growing international shareholdings, trade liberation, and participatory presence of corporate organizations/multinational companies in several countries have become a great concern to global regulatory bodies, especially in the area of fostering an enabling business atmosphere that promotes equity, transparency, and accountability among different interest groups/parties at the international market (Callao, Ferrer, Jarne, & Laínez, 2010).

The prospect for rigorous, improved and uniform reporting practices raises hope that the risk of future scandals could be reduced (Tweedie and Seidenstein, 2005). The Asian financial crisis and the financial scandals in the United States and elsewhere during recent years have underscored the fact that good financial reporting is essential

to the effective functioning of Capital markets and the productive allocation of economic resources (Tweedie and Seidenstein, 2005).

As evident global competition for limited resources heightened in the face of economic and corporate collapse across the globe, Shareholders, potential Investors and Creditors as well as conglomerate/multinational enterprises reluctantly became responsible for enormous cost of preparing and relying on Financial Statements that were prepared in line with the requirements of diverse conflicting national standards across the globe.

Internationalization of companies, the achievement of a single market and the globalisation of financial markets led to the need to find a common accounting language (Maystadt, 2013). The European Union (EU)'s concern for the need to move towards international comparability resulted in the approval of Regulation 1606/2002. This regulation made it mandatory for groups to prepare their consolidated Financial Statements in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and accepted by the EU where any of their affiliates are listed on any European Stock Market, with effect from 2005 (Callao, Ferrer, Jarne, & Laínez, 2010).

The first argument for the harmonization of accounting information systems is glued to the existence of conglomerate/multinational companies who invest enormous efforts/resources in the preparation of their financial reports in order to comply with the diverse national standards of their respective host nations. For these companies, life would be much easier if the same rules would be applied to their subsidiaries all around the world.

On the other hand, this uniformity agenda towards accounting standardization would be profitable for the investors as well, as they could compare the enterprises‟ results without difficulties, which would spare them unnecessary outflow of both money and other resources. This would also lead to the reduction of information diversity between managers and investors. Prevalence of information diversity could be very costly and could lead to decrease in managers' bonus, increase in equity cost and the inaccuracy of economical and financial forecasts (Beke, 2011c).

The European Union (EU)'s movement to IFRS provides new insights as firms from different legal and accounting systems adopt a single accounting standard at the same time (Beke, 2011b). This harmonization process enhances the comparability of Financial Statements across countries, making them more useful to investors and other users of financial information (Callao, Ferrer, Jarne, & Laínez, 2010).

Accordingly, the adoption of IFRS may equally lead to commendable reduction in time consumed trying to comply with all strict rules and regulations that come with the national rules-based accounting. Western European and American multinational corporations have often outsourced their accounting tasks so as to lower cost. If a globally accepted financial reporting standard was available, it would be even more likely that companies would contract out their accounting tasks to lower cost countries (Beke, 2011c).

The momentum gathered towards adopting international standards has not been limited to the European Union, and acceptance of the IASB's financial reporting framework globally. This embrace of IFRS has extended to six continents and is still growing. For instance, Australia, Hong Kong, and South Africa have all followed the European Union's lead in requiring the use of IFRSs in 2005 (Tweedie and Seidenstein, 2005). Many African and Asian countries, such as China and many countries of South-East Asia, have a policy of pursuing convergence of national standards with IFRSs.

Uniform financial reporting Standards will result in a lowered cost of capital, because the investors are willing to accept lower returns (interest on debt, dividends, and capital appreciation on equity) from their investments in corporate securities. Investors can actually reach a lower of returns when the perceived risk of their investments is reduced (Beke, 2011). However, some arguments have been presented as grounds for the uniformity of Accounting Standards globally. Some of the envisaged views are that uniformity of Accounting Standards serves as a coordinating device saving time and efforts, just as the rules of the road speed up traffic and reduces accidents. Moreso, it makes auditing exercise very easier even as it enhances Auditors negotiations with their clienteles (Sunder, 2007).

More specifically, a common financial language, applied consistently, will enable investors compare the financial results of companies operating in different jurisdictions more easily (Tweedie and Seidenstein, 2005). Close observation to the current atmosphere of International Accounting standardization globally seem to portend that any effort chanelled towards developing a set of globally acknowledged international accounting standards without United States' participation and acceptance would be incomplete and fail to achieve the full benefits that a common global reporting language could offer.

As a result, the IASB (even in recent times) has continued to acknowledge the major influence of North-American positions for the purpose of international convergence, even when in clarity it appears that the United States of America has no real intention of adopting the IFRS standards in the foreseeable future (Maystadt, 2013).

2.1.6.1 IASB and FASB and the Uniformity of Accounting Standards

The concept of International convergence first arose in the late 1950s in response to post World War II economic integration and related increases in cross-border capital flows (FASB, 2017) as initial efforts was intensified on the harmonization of different but existing national Accounting Standards then obtainable in different jurisdiction across the global towards reducing differences among the accounting principles used in major Capital markets around the world.

By the 1990s, the notion of harmonization was replaced by the concept of convergence- the development of a unified set of high-quality, international accounting standards that would be used in at least all major capital markets (FASB, 2017). The International Accounting Standards Committee, formed in 1973, was the first international standards-setting body. It was reorganized in 2001 and became an independent international standard setter, the International Accounting Standards Board (IASB). Since then, the use of international standards has progressed.

The IASB's mission includes the development of a single set of high quality, understandable and enforceable global accounting standards that require transparent

and comparable information in Financial Statements, and seeks to bring about convergence of national accounting standards and International Accounting Standards and International Financial Reporting Standards to high quality solutions (Deloitte, 2014). As of 2013, the European Union and more than 100 other countries either require or permit the use of international financial reporting standards (IFRSs) issued by the IASB or a local variant of them (Schmidt and Schoeppey, 2016). The FASB and the IASB have been working together since 2002 to improve and converge U.S. Generally Accepted Accounting Principles (GAAP) and IFRS (FASB, 2017).

As of 2013, Japan and China were also working to converge their standards with IFRSs. The Securities and Exchange Commission (SEC) consistently has supported convergence of global accounting standards. However, the Commission has not yet decided whether to incorporate International Financial Reporting Standards (IFRS) into the U.S. financial reporting system. The Commission staff issued its final report on the issue in July 2012 without making a recommendation (FASB, 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards

Timeline	Event	Activities
1960s	Calls for International Standards	Interest in international accounting began to grow due to post World War II economic integration and the related increase in cross-border capital flows.
1962	8th International Congress of Accountants hosted by the American Institute of Certified Public Accountants (AICPA).	Recommendations made for the development of auditing, accounting, and reporting standards on an international basis.
	The AIPCA Reactivates its Committee On International Relations	Committee to establish programs to improve international cooperation among Accountants and the exchange of information and ideas, with the idea those efforts might perhaps lead to eventual agreement on common standards.
1964	Review of international accounting standards.	Committee completed a review of Accounting Standards internationally, and published it as Professional Accounting in 25 Countries (AICPA).
1966	Accountants International Study Group Formed	The AICPA and its counterparts in the United Kingdom and Canada formed a group to study the differences among their standards.
1967	First textbook on International Accounting is Published	It was written by Professor Gerhard G. Mueller, who later became an FASB member in 1996.
1973	International Accounting Standards Committee (IASC) established	The IASC (the predecessor body to the IASB) was established by the AICPA and its counterparts in 8 other countries.
1979	FASB forms first task force	FASB includes representatives of the UK Accounting Standards Board, the Accounting Standards Board of Canada, and the IASC on its Task Force. This was one of the FASB's first efforts to formally collaborate internationally standards development.
1987	IASC embarks on comparability and improvements project	IASC had issued 25 standards covering various issues. Because those standards were essentially distillations of existing accounting practices across the globe, alternative treatments for the same transactions were often allowed. As a result, It undertook comparability and improvements project to reduce the number of allowable alternatives and make the standards more prescriptive rather than descriptive.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

1988	FASB becomes member of IASC Consultative Group	As a member of IASC Consultative Group (a body established to provide the IASC with input on technical and others issues and an Observer to the IASC), AICPA coordinated U.S. involvement in IASC activities. The FASB/IASC relationship had initially been an informal one. But that changed in 1988 due to FASB representative position in the Group and was thus permitted to attend and participate in IASC meetings.
	FASB expresses support for internationalization of Standards	FASB decided that the need for International Standards was strong enough to warrant more focused activity on its part. FASB Chairman Dennis Beresford expressed his support for "superior international standards" that would gradually replace national standards and identified new initiatives to get the FASB more directly involved in the drive to improve International Standards (*Status Report* No. 195, June 27, 1988).
1991	FASB issued first strategic plan for international activities.	FASB established a near-term strategic goal of making Financial Statements more useful by increasing the international comparability of accounting standards while improving their quality.
1993	FASB and the Accounting Standards Board of Canada undertake joint project on Segment Reporting	Both Boards issued improved standards on Segment Reporting that were substantially the same.
	FASB and other Standard Setters Form the G4	FASB and its counterparts in Canada, the United Kingdom, and Australia formed a group to research and propose solutions to common accounting and reporting issues. The group published 11 research reports on various issues such as reporting financial performance and accounting for leases. It was later renamed the "G4+1" when New Zealand became a member. Representatives of the IASC participated as an observer.
1994	FASB and IASC undertake first Collaborative Standard-Setting effort	FASB and IASC undertook concurrent projects to improve their earnings per share standards with a specific objective of eliminating the differences between them.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

1995	FASB updated Strategic Plan and compared U.S. GAAP and IASC Standards.	That effort resulted in the FASB's publication of *The IASC-U.S. Comparison Project: A report on the Similarities and Differences between IASC Standards and U.S. GAAP (1996).* In 1999, the FASB published an update of that staff research study.
1996	U.S. Congress Expressed Support for High-Quality International Standards	The National Securities Markets Improvement Act of 1996 became law. Section 509 opted for the, "establishment of a high-quality comprehensive set of generally accepted international accounting standards in cross-border securities offerings to strengthen international financing activities and, enhance foreign corporations access and enlistmrnt in United States markets.
	US SEC Considering the use of IASC Standards by Foreign Private Issuers	SEC issued a press release stating its intent to consider the acceptability of IASC standards as the basis for the financial reports of foreign private issuers. To be accepted by the SEC, the IASC standards would have to be (1) sufficiently comprehensive, (2) high-quality, and (3) rigorously interpreted and applied.
1998	Asian Financial Crisis prompts more calls for International Standards	Following the Asian financial crisis, the World Bank, International Monetary Fund, G7 finance ministers, and others called for rapid completion and global adoption of high-quality international accounting standards.
1999	FASB publishef vision for future of International Accounting Standard setting	FASB described its vision of the ideal international financial reporting system. The report pictured a system characterized by a single set of high-quality accounting standards established by a single, independent, international standard setter. The report also identified the characteristics of high-quality standards and of a high- quality global standard setter.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

2000	US SEC Issued a Concept Release on International Accounting Standards	The Concept Release, sought broad input on a framework for the convergence of Accounting Standards and sought input on the conditions under which the SEC should accept the Financial Statements of foreign private issuers prepared using IASC Standards and eliminate the requirement to reconcile those Financial Statements to U.S. GAAP.
2001	**I**ASC reconstituted into IASB	In response to calls for improvement in the governance, funding, and independence of IASC, it was reconstituted into the IASB. The IASB's structure and operations resulted from the efforts of a strategy working party formed in 1998. The governance, oversight, and standard-setting processes of the IASB are similar to those of the FASB. At inception, it had 14 Board members from 9 countries, including the U.S., with a variety of functional backgrounds. IASB issued its first International Financial Reporting Standards (IFRS).
2002	European Union decided for IFRS use.	The European Union (EU) adopted legislation requiring all listed companies to prepare their consolidated financial statements using IFRS starting in 2005, becoming the first major capital market to require IFRS.
	The Norwalk Agreement: FASB and IASB agree	In September 2002, FASB and the IASB met jointly and agreed to to improve and converge U.S. GAAP and IFRS. That partnership is described in "The Norwalk Agreement". Norwalk Agreement sets out the shared goal of developing compatible, high-quality Accounting Standards that could be used for both domestic and cross-border financial reporting.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

2003	US SEC reaffirms FASB as U.S. private sector Standard Setter	Pursuant to the Sarbanes-Oxley Act of 2002, the SEC issued a Policy Statement that reaffirmed FASB as the private-sector Accounting Standard setter for the U.S. That policy statement also said that the SEC expects the FASB to consider, in adopting accounting principles, the extent to which international convergence of high-quality standards is necessary or appropriate in the public interest and for the protection of investors
2005	SEC Staff proposed Roadmap to eliminate reconciliation requirement	SEC Chief Accountant Don Nicholiasen proposed a "Roadmap" to eliminate by 2009 the requirement that foreign private issuers filing Financial Statements prepared under IFRSs reconcile reported net income and equity to U.S. GAAP. The proposed Roadmap identified the IASB/FASB convergence program as milestones that would support eliminating the reconciliation.
2006	FASB and IASB Issued a Memorandum of Understanding	In February 2006, the FASB and the IASB issued a Memorandum of Understanding (MoU) that described the progress they hoped to achieve toward convergence by 2008. In the MoU, the two Boards reaffirmed their shared objective of developing high-quality, common accounting standards. The MoU elaborated on the Norwalk Agreement, setting forth the following guidelines in working toward convergence:
2007	SEC Proposed and Subsequently Eliminated the Reconciliation Requirement	In July 2007, the SEC issued a proposing release, *Acceptance from Foreign Private Issuers of Financial Statements Prepared in Accordance with International Financial Reporting Standards without Reconciliation to U.S. GAAP*, to eliminate the reconciliation requirement for foreign registrants that use IFRS as issued by the IASB. After considering the input received, the SEC issued a final rule eliminating that requirement in December 2007
	SEC Issued a concept release on possible optional use of IFRS by U.S. Issuers	On August 7, 2007, the SEC issued *Concept Release on Allowing U.S. Issuers to Prepare Financial Statements in Accordance with International Financial Reporting Standards*. The Concept Release sought public input on whether to give U.S. public companies the option of using IFRS as issued by the IASB in their Financial Statements filed with the SEC

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

	FASB responds to the SEC's concept release on possible optional use of IFRS by U.S. Issuers	On November 7, 2007, the Financial Accounting Foundation (FAF) and the FASB responded to the SEC's request for comments on its Concept Release (see above). While reaffirming the FASB's support for a single set of high-quality common standards developed by an independent, international standard setter, the letter argued against permitting the optional use of IFRS in the absence of the planned adoption by all SEC registrants, citing the complexity that would result from such a dual reporting system.
	FASB and IASB Issue Converged Standards on Business Combinations	In late 2007, FASB and the IASB completed their first major joint project and issued substantially converged standards on business combinatns.
2008	FASB and IASB updated their Memorandum of Understanding (MoU)	In September 2008,the FASB and the IASB issued an update to the 2006 MoU to report the progress they have made since 2006 and to establish their convergence goals through 2011.
	The SEC Issues a proposed roadmap to adoption of IFRS in the U.S. and a proposed rule on optional early use of IFRS	In November 2008, the SEC published for public comment a proposed Roadmap to the possible use of IFRS by U.S. issuers beginning in 2014. Under the proposed Roadmap, the Commission would decide by 2011 whether adoption of IFRS would be in the public interest and would benefit investors. The proposed Roadmap identified several milestones that, if achieved, could lead to the use of IFRS by U.S. issuers. The SEC also proposed that U.S. issuers meeting certain criteria be given the option of filing financial statements prepared using IFRS as issued by the IASB as early as years ending after December 15, 2009.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

2009	FAF and FASB Issue their comment letter on the SEC's proposed roadmap	On March 11, 2009, the FAF and FASB responded to the SEC's request for comments on its proposed Roadmap. The letter reiterated the FASB's strong support for the goal of a single set of high-quality international standards and recommended additional study to better evaluate the strengths, weaknesses, costs, and benefits of possible approaches the U.S. could take in moving toward that goal. Most recently, in a joint meeting held in October 2009, the FASB and IASB reaffirmed their commitment to convergence, agreed to intensify their efforts to complete the major joint projects described in the MoU, and committed to making quarterly progress reports on these major projects available on their websites. As a further affirmation of that commitment, the Boards issued a joint statement describing their plans and milestone targets for achieving the goal of completing major MoU projects by mid-2011.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

2010	SEC issued a statement in support of convergence and global Accounting Standards	In February 2010, the SEC issued a statement that lays out the SEC's current position regarding global accounting standards. That Statement reflects the Commission's consideration of the input it received on its November 2008 proposed rule, *Roadmap for the Potential Use of Financial Statements Prepared In Accordance With International Financial Reporting Standards (IFRS) by U.S. Issuers.* The Statement makes clear that the SEC continues to believe that a single set of high-quality, globally accepted accounting standards would benefit U.S. investors. The Statement also: ▪ Continues to encourage the convergence of U.S. GAAP and IFRS ▪ Outlines factors that are of particular importance to the Commission as it continues to evaluate IFRS through 2011 ▪ Directs the staff of the SEC to develop and execute a work plan (Work Plan) that transparently lays out specific areas and factors for the staff to consider before potentially transitioning our current financial reporting system for U.S. issuers to a system incorporating IFRS. In February 2010, the FASB and the Financial Accounting Foundation issued a statement regarding the SEC's Statement and Work Plan.
	FASB reported periodically on the status of their project to improve and converge U.S. GAAP and IFRS	In April 2010, the FASB and IASB published a first-quarter progress report on their work to improve and achieve convergence of U.S. GAAP and IFRS. In June 2010, the FASB and IASB agreed to modify their joint work plan to (a) prioritize the major projects in the MoU to permit a sharper focus on issues and projects for which the need for improvement is most urgent and (b) phase the publication of exposure drafts and related consultations to enable the broad-based and effective stakeholder participation that is critically important to the quality of the standards. On June 24, 2010, the FASB and IASB issued a quarterly joint progress report that describes that modified work plan. In November 2010, the FASB and IASB issued

		a quarterly progress report on the status of their work to complete the MoU. That progress report describes the Boards' affirmation of the priorities laid out in their June 2010 report described above. It also describes how the Boards modified aspects of their plans for other projects in order to put them in the best position to complete the priority projects by the June 2011 target date.
2011	FAF and FASB provide feedback to the IFRS Foundation on its Strategy Review	In February 2011, the FAF and the FASB issued a brief letter to the IFRS Foundation Trustees providing their views on several key issues with respect to mission, governance, and process raised in the Strategy Review the IFRS Foundation published for public comment on November 5, 2010.
	Report of the Meeting of National Standard-Setters (NSS)	In March, the FASB hosted the semi-annual meeting of national standards setters in New York City. Over 60 individuals representing more than 20 different national standards setting and other organizations met to discuss a variety of matters of mutual interest, such as progress on technical projects of the IASB and joint projects between the FASB and IASB, the IASB's post-implementation review process, and issues arising in the application of international financial reporting standards. Read the full meeting report.
	Progress report on IASB-FASB Convergence Work	In April, the FASB and IASB reported on their progress toward completion of the convergence work program. The Boards were giving priority to three remaining projects on their MoU (financial instruments, revenue recognition, and leasing) as well as their joint project on insurance. The Boards also agreed to extend the timetable for those priority projects beyond June 2011 to permit further work and consultation with stakeholders in a manner consistent with an open and inclusive due process. The Boards issued a progress report that provides details on the timeline for completion of the MoU projects.

FASB (accessed in 2017).

Table 2.2: Chronology of the Evolution of the International Convergence of Accounting Standards continued

2012	SEC staff "Final Report" on Work Plan	In July 2012, the SEC staff issued its final staff report on the "Work Plan for Consideration of Incorporating International Financial Reporting Standards into the Financial Reporting System for U.S. Issuers." The report was the final phase of a work plan, initiated in February 2010, to consider specific issues relevant to the Commission's determination as to where, when and how the current financial reporting system for U.S. issuers should be transitioned to a system incorporating IFRS. The 2012 staff report summarized the staff's findings regarding key issues surrounding the potential incorporation of IFRS into U.S. financial reporting, but did not make any recommendation to the Commission. In the report, the SEC staff examined a number of unresolved issues relating to the potential incorporation of IFRS into the U.S. financial reporting system. These issues include, among others, the diversity in how accounting standards, including IFRS, are interpreted, applied and enforced in various jurisdictions around the world; the potential cost to U.S issuers of adopting or incorporating IFRS; investor education; and governance.
2013	IFRS Foundation established Accounting Standards Advisory Forum (ASAF)	The International Financial Reporting Standards Foundation in early 2013 established the Accounting Standards Advisory Forum (ASAF) to improve cooperation among worldwide standard setters and advise the IASB as it develops International Financial Reporting Standards (IFRS). The FASB was selected as one of the ASAF's twelve members. The FASB's membership on the ASAF is an opportunity to represent U.S. interests in the IASB's standard-setting process and to continue the process of improving and converging U.S. Generally Accepted Accounting Principles and IFRS. The FASB was nominated for membership on the ASAF by the FAF Board of Trustees, which oversees both the FASB and its sister standard-setting board, the Governmental Accounting Standards Board (GASB).

FASB (accessed in 2017).

2.1.6.2 The Norwalk Agreement

This refers to a Memorandum of Understanding signed in September 2002 between the Financial Accounting Standards Board (FASB), the US standard setter, and the International Accounting Standards Board (IASB). The agreement is so called as it was reached in Norwalk.

The Agreement was a significant step towards the US formalizing its commitment to the convergence of US GAAP and International Financial Reporting Standards towards achieving and producing high quality reporting standards worldwide to support healthy global Capital Markets (FASB, 2017).

It sets out a number of initiatives, including a move to eliminate minor differences between US and international standards, a decision to align the two Boards' future work programmes and a commitment to work together on joint projects (Hoogervorst and Seidman, 2012; and Fosbre, Kraft, and Fosbre, 2009).

In 2002, on the basis of the Norwalk Agreement, two organisations: Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) started joint works so as to establish new Accounting Standards. These works among others led to a change in the Conceptual Framework for Reporting, which is a kind of "guide" and "base" for International Financial Reporting Standards. The Framework specifies the main objectives and the principles of drawing up financial reports as well as their qualitative characteristics.

The changes introduced in the years 2008 and 2010, referred to as the Improved Conceptual Framework for Financial Reporting, are in particular related to the qualitative characteristics of financial information presented in financial statements and reflect the „new philosophy" of a Financial Statement.

2.1.6.3 The rise of International Financial Reporting Standards (IFRS)

Dearth of cross border investments in Capital markets of emerging economies may not be without the prevalence of poor accountability and inadequate financial information disclosures by managers of organizational resources. As a result, global

uproar for transparency, improved disclosure and quality accounting practice appear to have become the after effect outcome of the immense thrive for the globalization of Capital Markets.

Considering the volatility that has ensued in world economies, capital which is a foundational component of every business seem to have suddenly become a global "commodity" that must be competed for by corporate organizations towards sustaining their going concern status in the tight market. This, according to Oheneba, Muhammad and Kamran (2011), requires that countries especially the emerging economies need strengthen their existing institutions and invigorate the reporting standards that govern their accounting and disclosure practices.

More so, such favourable environment is often considered a major source of motivation for the receipt of positive response from domestic and international capital providers. This very atmosphere is believed to have prompted the emergence of the International Financial Reporting Standards (IFRS).

International Financial Reporting Standards (IFRS) are a single set of high quality, understandable standards for general purpose financial reporting which are principles-based in contrast to the rule based approach (Ashok, 2014). They are a common global language designed for business affairs to enhance clarity in the understandability and comparability of corporate accounts and financial reporting across international boundaries. According to Beke (2011a), the International Financial Reporting Standards (IFRS) are accounting principles, rules, methods (standards) issued by the International Accounting Standards Board (IASB), an independent organization based in London, U.K, which stands out as an ideal set of Accounting Standards that apply to financial reporting activities of all public companies worldwide.

Between 1973 and 2000, International Standards were issued by IASB‟s predecessor organisation, the International Accounting Committee (IASC), a body established in 1973 by the professional Accountancy bodies in Australia, Canada, France, Germany, Japan, Mexico, Netherlands, United Kingdom and Ireland, and the United States.

During that period, the IASC‟s principles were described as International Accounting Standards (IAS). Since April 2001, this rule-making function has been taken over by a newly-reconstituted IASB. From this time on the IASB describes its rules under the new label- IFRS, though it continued to recognise (accept as legitimate) the prior rules (IAS) issued by the old standard-setter (IASC). The IASB is better-funded, better-staffed and more independent than its predecessor, the IASC (Beke, 2011a).

IFRS comprises four (4) types of documents namely, IAS (41 issues); IFRSs (18 issues); the Standing Interpretation Committee Statements, SICS (11 issues); and the International Financial Reporting Issues Committee Statements, IFRICS (18 issues), (Azobu, 2010). They are designed to encourage professional judgment and discourage over reliance on detailed rules. These types of International Accounting standards are progressively replacing many different national Accounting Standards as the rules to be followed by Accountants in order to maintain books of accounts that are comparable, understandable, reliable and relevant to internal or external users.

IFRS Financial Statements consist of (IAS1.8)

a. A Statement of Financial Position
b. A Statement of Comprehensive Income separate statements comprising an Income Statement and separately a Statement of Comprehensive Income, which reconciles Profit or Loss on the Income statement to total comprehensive income
c. A Statement of Changes in Equity (SOCE)
d. A Cash Flow Statement or Statement of Cash Flows
e. Notes, including a summary of the significant accounting policies

Comparative information is required for the prior reporting period (IAS 1.36). An entity preparing IFRS accounts for the first time must apply IFRS in full for the current and comparative period although there are transitional exemptions (IFRS1.7).

2.1.6.3.1 General Features in IFRS

The following are the general features in IFRS:

1) *Fair presentation and compliance with IFRS:* Fair presentation requires the faithful representation of the effects of the transactions, other events and conditions in accordance with the definitions and recognition criteria for assets, liabilities, income and expenses set out in the Framework of IFRS.
2) *Going concern*: Financial statements are present on a going concern basis unless management either intends to liquidate the entity or to cease trading, or has no realistic alternative but to do so.
3) *Accrual basis of accounting*: An entity shall recognise items as assets, liabilities, equity, income and expenses when they satisfy the definition and recognition criteria for those elements in the Framework of IFRS.
4) *Materiality and aggregation:* Every material class of similar items has to be presented separately. Items that are of a dissimilar nature or function shall be presented separately unless they are immaterial.
5) *Offsetting*: Offsetting is generally forbidden in IFRS. However certain standards require offsetting when specific conditions are satisfied (such as in case of the accounting for defined benefit liabilities in IAS 19 and the net presentation of deferred tax liabilities and deferred tax assets in IAS 12.
6) *Frequency of reporting*: IFRS requires that at least annually a complete set of financial statements is presented. However listed companies generally also publish interim financial statements (for which the accounting is fully IFRS compliant) for which the presentation is in accordance with IAS 34 Interim Financing Reporting.
7) *Comparative information:* IFRS requires entities to present comparative information in respect of the preceding period for all amounts reported in the current period's financial statements. In addition comparative information shall also be provided for narrative and descriptive information if it is relevant to understanding the current period's financial statements. The standard IAS 1 also requires an additional statement of financial position (also called a third balance sheet) when an entity applies an accounting policy retrospectively or makes a retrospective restatement of items in its financial statements, or when it reclassifies items in its financial statements. This for example occurred with the adoption of the revised standard IAS 19 (as of 1 January 2013) or when the new

consolidation standards IFRS 10-11-12 were adopted (as of 1 January 2013 or 2014 for companies in the European Union).

8) *Consistency of presentation*: IFRS requires that the presentation and classification of items in the financial statements is retained from one period to the next unless:
   i. It is apparent, following a significant change in the nature of the entity's operations or a review of its Financial statements, that another presentation or classification would be more appropriate having regard to the criteria for the selection and application of accounting policies in IAS 8; or
   ii. An IFRS standard requires a change in presentation.

2.1.6.3.2 Criticisms of IFRS

In 2012, the US Securities and Exchange Commission Staff issued a 127-page report of potential issues with IFRS that would need to be addressed before adoption by the United States. A number of criticisms were also voiced in the beginning of 2013 in the French media to which the IASB Board member Philippe Danjou responded in his document- An Update on International Financial Reporting Standards.

It is widely acknowledged that IAS 29 *Financial Reporting in Hyperinflationary Economies* had no positive effect during the six years it was implemented during hyperinflation in Zimbabwe. As of March 2014, IAS 29 was being implemented in its original ineffective for in Venezuela and Belarus. It was suggested to the IASB in 2012 that IAS 29 should be corrected to require daily indexation which would result in effective constant purchasing power accounting and would stabilize the non-monetary economy during hyperinflation. As at March 2014, no response was yet to be offered by the IASB to this criticism.

The International Financial Reporting Standards Foundation in early 2013 established the Accounting Standards Advisory Forum (ASAF) to improve cooperation among worldwide standard setters and advise the IASB as it develops International Financial Reporting Standards (IFRS). The Financial Accounting Standard Board (FASB) was selected as one of the ASAF's twelve members. The FASB's membership on the ASAF is an opportunity to represent United States of America's interests in the IASB's standard-setting process and to continue the process of improving and

converging U.S. Generally Accepted Accounting Principles and IFRS. The FASB was nominated for membership on the ASAF by the FAF Board of Trustees, which oversees both the FASB and its sister standard-setting board, the Governmental Accounting Standards Board (GASB).

Table 2.3: IFRSs, IFRIC, and SIC issued so far

IFRS	**IAS**	**IFRIC**	**SIC**
Preface	IAS 1 *Presentation of Financial Statements*	IFRIC 1 *Changes in Existing Decommissioning, Restoration and Similar Liabilities*	SIC 7 *Introduction of the Euro*
Framework	IAS 2 *Inventories*	IFRIC 2 *Members' Shares in Co-operative Entities and Similar Instruments*	SIC 10 *Government Assistance—No Specific Relation to Operating Activities*
IFRS 1 *First-time Adoption of International Financial Reporting Standards*	IAS 7 *Statement of Cash Flow*	IFRIC 5 *Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds*	SIC 25 *Income Taxes—Changes in the Tax Status of an Entity or its Shareholders*
IFRS 2 *Share-based Payment*	IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*	IFRIC 6 *Liabilities arising from Participating in a Specific Market—Waste Electrical and Electronic Equipment*	SIC 29 *Disclosure—Service Concession Arrangements*
IFRS 3 *Business Combinations*	IAS 10 *Events after the Reporting Period*	IFRIC 7 *Applying the Restatement Approach under IAS 29*	SIC 32 *Intangible Assets—Website Costs*
IFRS 4 *Insurance Contracts*	IAS 12 *Income Taxes*	IFRIC 10 *Interim Financial Reporting and Impairment*	--96525454444\
IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*	IAS 16 *Property, Plant and Equipment*	IFRIC 12 *Service Concession Arrangements*	

Source: IFRS Foundation (accessed in 2017).

Table 2.3: IFRSs, IFRIC, and SIC issued so far continued

IFRS	IAS	IFRIC	SIC
IFRS 6 *Exploration for and Evaluation of Mineral Resources*	IAS 19 *Employee Benefits*	IFRIC 14 *IAS 19—The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction*	
IFRS 7 *Financial Instruments: Disclosures*	IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance*	IFRIC 16 *Hedges of a Net Investment in a Foreign Operation*	
IFRS 8 *Operating Segments*	IAS 21 *The Effects of Changes in Foreign Exchange Rates*	IFRIC 17 *Distributions of Non-cash Assets to Owners*	
IFRS 9 *Financial Instruments*	IAS 23 *Borrowing Costs*	IFRIC 19 *Extinguishing Financial Liabilities with Equity Instruments*	
IFRS 10 *Consolidated Financial Statements*	IAS 24 *Related Party Disclosure*	IFRIC 20 *Stripping Costs in the Production Phase of a Surface Mine*	
IFRS 11 *Joint Arrangements*	IAS 26 *Accounting and Reporting by Retirement Benefit Plans*	IFRIC 21 *Levies*	
IFRS 12 *Disclosure of Interest in Other Entities*	IAS 27 *Separate Financial Statements*		
IFRS 13 *Fair Value Measurement*	IAS 28 *Investments in Associates and Joint Ventures*		
IFRS 14 *Regulatory Deferral Accounts*	IAS 29 *Financial Reporting in Hyperinflationary Economies*		
IFRS 15 *Revenue from Contracts with Customers*	IAS 32 *Financial Instruments: Presentation*		

Source: IFRS Foundation (accessed in 2017).

Table 2.3: IFRSs, IFRIC, and SIC issued so far continued

IFRS	IAS	IFRIC	SIC
IFRS 16 *Leases*	IAS 33 *Earnings per Share*		
	IAS 34 *Interim Financial Reporting*		
	IAS 36 *Impairment of Assets*		
	IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*		
	IAS 38 *Intangible Assets*		
	IAS 39 *Financial Instruments: Recognition and Measurement*		
	IAS 40 *Investment Property*		
	IAS 41 *Agriculture*		

Source: IFRS Foundation (accessed in 2017).

IAS and SIC are the Standards and Interpretations created by the predecessors of the IASB and the IFRS Interpretations Committee. These had been adopted by the IASB and the IFRS Interpretations Council when they took over in 2001 and therefore form part of the body of IFRS requirements.

2.1.6.4 Adoption of IFRS in Nigeria

Global commerce is increasingly polarised into Multi-National Corporations (MNCs) and national companies. Clearly, financial reporting is responding to this business dynamics by following in this direction. However, most national companies do not have foreign subsidiaries while their Financial Statements are mainly for tax assessment purposes and possibly to provide information to local banks in order to secure credit facilities; whereas, MNCs play in different jurisdictions through their

subsidiaries which prepare financial reports in compliance with various local GAAPs (Egwuatu, 2013).

The adoption of IFRS by different national jurisdictions appear to cut across several reasons ranging from possible production of Financial Statements that are based on globally accepted financial reporting practices when compliance has been duly observed and its consequent permissive room for the exercise of professional judgment especially when making accounting choices. All these are not without their implicative effects at the international capital markets as well as its accompanying macroeconomic consequences (Palea, 2013).

Before the adoption of IFRS in Nigeria, Company and Allied Matter Act (CAMA) 1990 was the legal and regulatory framework for accounting practice in Nigeria in respect of the preparation of financial report (Edogbanya and Kamardin, 2014). Aside prescribed format and content of what a company's Financial Statement disclosures entail, it required that the Financial Statements of all corporate organizations comply and adhere with Nigeria's old generally accepted accounting standards (GAAP), the Statement of Accounting Standards (SAS) which was then issued from time to time by the defunct Nigerian Accounting Standard Board (NASB) (Edogbanya and Kamardin, 2014). It could be recalled that the NASB came into being on September 9, 1982 as an independent body responsible for the development and issuance of Statement of Accounting Standards (SASs) for users and preparers of Financial Statements, Investors, commercial entities and regulatory agencies of the government.

However, Madawaki (2012) recounted that the formal creation and establishment of NASB as an Inspectorate Unit through an Act of the National Assembly- NASB Act, became a reality in 2003.

With the campaign for the formal adoption of IFRS in Nigeria launched in September, 2010 via a road map by the then Minister of Commerce and Industry, just few months after the replacement of NASB with the Financial Reporting Council (FRC) of Nigeria (a new regulatory body for financial reporting practices and Standards' setting in Nigeria) through the FRCN Act of 2010, formal adoption and compliance by all the first tier companies of public interest listed on the floor Nigerian Stock Exchange (NSE) became inevitable with effect from January 1st, 2012. Year 2013 was set out

in the roadmap as deadline for companies of non first tier category while 2014 became the peak target period for the adoption of its equivalent (IFRS for SMEs) for all Small and Medium scale Enterprises (SMEs) in Nigeria (Owolabi and Iyoha, 2012).

Since these MNCs often seek finance from various capital markets, comparability of financial reports was a huge problem leading, in many cases, to inefficient and sub-optimal investment decisions (Egwuatu, 2013).

2.1.7 Concept of Financial Data Integrity

When people think about data integrity, they often reduce data integrity just to accuracy. In financial reporting context, Trites (2013) maintained that information integrity includes the accuracy, relevance, precision, timeliness and completeness of the information. In other words, Information that is accurate, relevant, precise, timely and complete for a particular purpose can be termed as being fit for the purpose of the investing public consumption/investment decision making (AICPA, 2013). However, data quality means more than simply data accuracy.

For the purpose of this study, financial information integrity, financial data integrity, accounting information integrity and financial data quality shall be used synonymously to mean the same thing. Data is the plural of the Latin word "datum" and is usually used to mean either a singular or a plural form. It is used to represent raw facts or observations, typically of physical phenomena or business transactions (Flowerday and Solms, 2007).

In the information technology (IT) system, data is seen as that input that must be processed in order to yield information that will be relevant to users or third parties for decision making purpose or knowledge acquaintance (Trites, 2013). Similarly, Information can be viewed as raw data or data whose original form has been altered by arithmetic means such as tabulation, addition, subtraction, division, or the equivalent to enhance its meaningfulness, understanding of events, relevance or usage.

Input (Data) - Processed - Information

Information can be structured (for example accounting transactions), partly structured (for example object-oriented data bases) or unstructured (for example raw data such as a string of digits). It consists of representations regarding one or more events and/or instances that have been created for a specified use. Such events or instances can have numerous attributes and characteristics that may or may not be included in a set of information, depending on the intended use of the information (Trites, 2013).

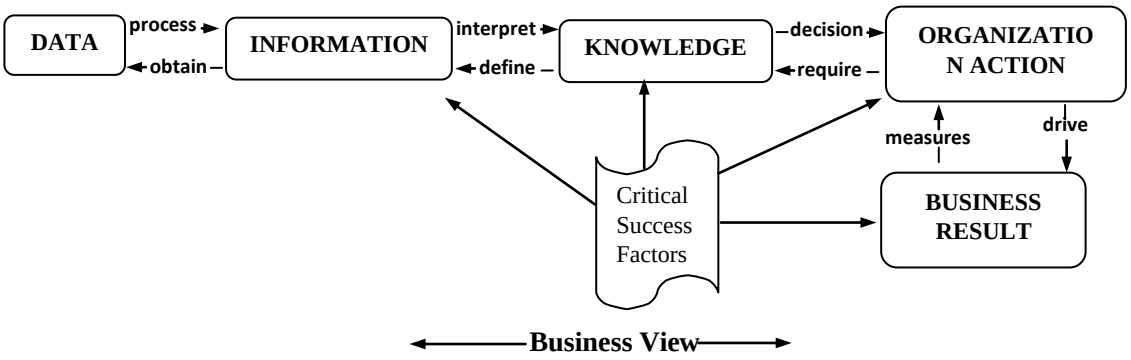


Figure 2.1: Information in Context.

Source: Ward and Peppard, (2002).

Suffice it to say that Information quality, in part, depends largely on the quality of data supplied or relied on for use. Poor quality information has contributed to lose of productivity, failed companies and low consumer confidence (English 1999; Wang and Strong 1996 cited in Flowerday and Solms, 2007). Poor quality information has also caused political controversies and high profile disasters.

Wenfei (2015) concurs to this stressing that real-life data is often dirty, inconsistent, inaccurate, incomplete, obsolete and duplicated. He pointed out that dirty data is costly as statistical evidence sets the facts straight that bad or poor data quality costs US businesses about $600 billion annually such that about 20%-35% of their operating revenue was often at risk.

Wholesomely looking at it, Wenfei (2015) maintained that such poor data presented by US businesses and the government undermined the US economy annually by a

whooping sum of $3.1 trillion US Dollars. Logically viewing the situation, Flowerday and Solms (2007) reasoned that since decision making in organizations is usually influenced by the quality nature of information available, then it is natural that its effect on the outcome of such decisions made will not be in doubt especially where the information relied upon lacks quality or integrity.

In Information Technology Governance (ITG), four attributes namely reliability, relevance, usability, and integrity are often used to depict quality information. Flowerday and Solms (2007) noted that the quality of any information obtainable in an organisation is usually dependent on all four attributes as stated above such that the relevance, usability and reliability of such information could be in doubt if it lacks integrity.

Interestingly, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) advocate that the word *reliability* be replaced with the words *'faithful representation'*, due to the misinterpretation widely accorded to the word reliability (Erb and Pelger, 2015).

The auditing profession on their part also adopted the "concept of reasonable assurance" in her effort to addressing issues of financial data or information integrity. This concept requires that the Auditors perform enough work to obtain reasonable assurance that the information found within the Financial Statements of a company is free from materiality and is a fair or faithful representation of that company's financial position (Flowerday and Solms, 2007).

Bovee, Srivastava and Mak (2003) on the other hand opined that integrity is intrinsic to how information is made, and went ahead to define the four sub-attributes of integrity in the following manner:

1. ***Accuracy*** – This information conforms to the real-world or conceptual items of interest to the user. It is typically considered to be error free.
2. ***Completeness*** – Refers to having all required parts or having enough information for decision-making.

3. ***Consistency*** – Requires that multiple recordings of the values for any of the attributes be consistent across time and space. To be consistent, these values must be the same in all cases.
4. ***Existence*** – This is an important intrinsic element of information used in auditing. If one needs to validate information, Bovee et al. (2003) claim that the information would need to meet any tests of existence that there are no false or redundant entities, fields or values.

Wenfei (2015) however adopted the dependency-based approaches is explaining some of the above sub attributes of data integrity as highlighted by Bovee et al. (2003). His emphasis borders on: data consistency, data deduplication, information completeness, data currency, and data accuracy.

1. ***Data Consistency:*** This refers to the validity and integrity of data representing real-world entities. It focus is the detection of errors (inconsistencies and conflicts) in the data disclosed, and is typically identified as the violations of data dependencies (integrity constraints). Attractively, It is helpful in the repair of erring data by fixing such notable errors that are commonly found in practice. However, the error detection methods deployable usually depends on whether the data being accessed is stored in a local database or distributed across different sites.
2. ***Data deduplication:*** This is known as record matching, record linkage, entity resolution, instance identification, duplicate identification, merge-purge, database hardening, name matching, co-reference resolution, identity uncertainty, and object identification. It is a longstanding issue that has been studied for decades, and is perhaps the most extensively studied data quality problem. The need for data deduplication is evident in data quality management, data integration and fraud detection. It is particularly important to big data, which is often characterized by a large number of (heterogeneous) data sources.
3. ***Information Completeness:*** This is concerned with whether relevant and available database of organizations possess complete information that is helpful to users of such information in answering queries, complexities, or doubts emerging from the data they are relying on.

4. ***Data Currency***: This focuses on identifying the current value or worth of entities as often represented in amounts or figures stated in a (possibly stale) financial database of such organizations.
5. ***Data Accuracy:*** This refers to the closeness of values in a database to the true values of the entities that the data in the database represents. Although it has long been recognized that data accuracy is critical to data quality, the topic has not been well studied.

The integrity of accounting information, according to Haka and Carcello, (2016), is typically enhanced in three primary ways:

First, it must be noted that certain institutional features add significantly to the integrity of accounting information. These features include high quality and acceptability of Accounting Standards, principles, business laws, and regulations adopted for the preparation of accounting information, existence of reliable internal control structure in organizations, and the observance of statutory audits of Financial Statements by professional External Auditors appointed by the companies' Shareholders.

Secondly, the participation and professional contribution of specialist professionals of recognized or legally registered professional accounting organizations play unique role in adding to the integrity of accounting information which is often made public in any given financial reporting jurisdiction, territory or country.

Finally, the issue of reliable personal competence, appropriate use of professional judgment, and consistent but commendable display of ethical behaviour by professional Accountants, has been considered the most important corner stone for the creation and building of a sustainable integrity environment for reliable financial information disclosures.

These three unique elements of the accounting profession, Haka and Carcello (2016) agree, do come together to ensure that users of accounting information such as Iinvestors, Creditors, Managers, and others can really rely on the accounting information to be a fair representation of what it purports to represent.

Aside the need for the management of corporate organizations to exercise high level of ethical conduct in her financial accounting and reporting practices in the company, the role of the company's Audit committee and her appointed External Auditor in the periodical monitory and assessment of prevailing internal controls of the entity cannot be taken for granted. And this of course, when discretely observed in organizations helps promote good corporate governance within the organizational structure.

In other words, information integrity can be no better than the integrity of the system in place in the organization that processes the data or information, although it could be worse (Flowerday and Von Solms, 2007) when sound effective internal control measures are not functionally in place within the company's operational system.

2.1.8 Foundations of Data Integrity

The term financial data or information integrity can sometimes be confusing especially when the context of its usage is not properly understood. This is because, it usage could be inferred from either from *a state* point of view or *a process*. For the purpose of this study, both data integrity and information integrity will be used interchangeably to mean the same thing. From a State point of view, information integrity is viewed as disclosed data or set of financial information that are believed to be valid and accurate representation of events that has transpired in an entity during a given period of time without any cause for doubt.

On the other hand, financial information integrity can be viewed as a Process when it is able to give relevant descriptions and procedural facts or explanations as to the measures used towards ensuring that the validity and accuracy of such data set or all data contained in a database or other construct of the financial information so disclosed is given in a simple manner or language that enhances the understanding of any given category of users of such accounting information without any cause for fear of deception.

According to Trites (2013), financial Information integrity can be defined as the representational faithfulness of disclosed accounting information to the published financial data of an organisation and the fitness of such information for its intended

use. This includes the accuracy, relevance, precision, timeliness and completeness of the information Nate (2016) viewed Accounting Information integrity as the accuracy and consistency (validity) of financial data over its reported periods' lifecycle. Data integrity applies to all elements of the Quality Management System and the principles herein apply equally to data generated by electronic and paper-based systems.

However, a widely acknowledged fact exist that 100% information integrity is not usually attainable due to various limitations (Flowerday and Von Solms, 2007) which differ across entities, industries, or sectors in the business environment.

2.1.9 Data Integrity and related research fields

The subject of data integrity has overtime maintained unique domain in certain fields where the discourse and knowledge of its relevance to real world situation has continued to draw scholarly attention. Some of these notable areas are:

1. *Statistics:* This tends *to* include a set of methods that are used to collect, analyze, present, and interpret data. Statistics has developed in the last two centuries a wide spectrum of methods and models that allow one to express predictions and formulate decisions in all contexts where uncertain and imprecise information is available for the domain of interest. Statistics and statistical methodology are concerned with two basic types of problems: (i) summarizing, describing, and exploring data, and (ii) using sampled data to infer the nature of the process that produced the data.

   Since low quality data are an inaccurate representation of the reality, a variety of statistical methods have been developed for measuring and improving the quality of data.
2. *Knowledge:* This study area maintains emphasis on how knowledge about an application domain can be represented. It tries to look at the kind of reasoning that can be exploited with such knowledge. This is usually referred to as *knowledge reasoning*). Knowledge about an application domain may be represented procedurally in form of program code, or implicitly as patterns of activation in a neural network. Alternatively, the area of knowledge representation assumes an explicit and declarative representation, in terms of a *knowledge base*, consisting of logical formulas or rules expressed in a representation language. Providing a rich

representation of the application domain, and being able to reason about it, is becoming an important leverage in many techniques for improving data quality.

3. *Data mining:* This is an analytic process designed to explore usually large sets of data in search of consistent patterns and/or systematic relationships between attributes/variables. Exploratory data mining is defined as the preliminary process of discovering structure in a set of data using statistical summaries, visualization, and other means. In this context, achieving good data quality is an intrinsic objective of any data mining activity since otherwise the process of discovering patterns, relationships and structures is seriously deteriorated. From another perspective, data mining techniques may be used in a wide spectrum of activities for improving the quality of data;

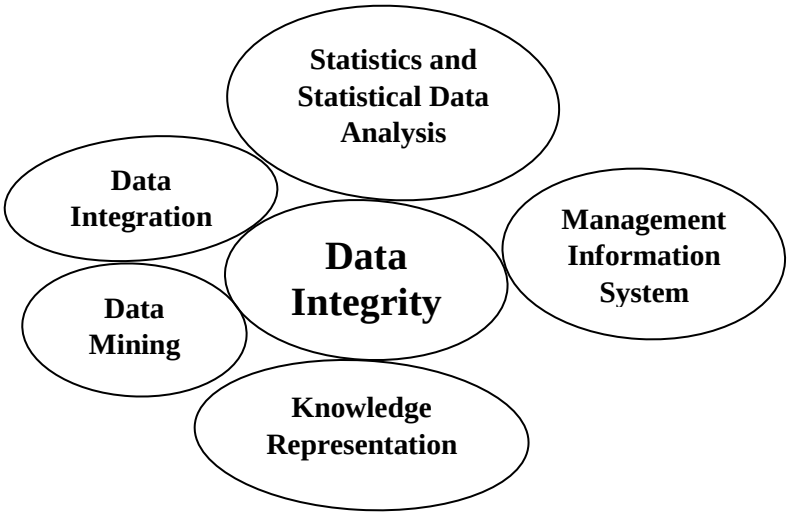


Figure 2.2: Data Integrity and research related areas.,

Sources: Batini and Scannapieco (2006)

4. *Management information systems:* These are systems that provide the information necessary to manage an organization effectively. Since data and knowledge are becoming relevant resources both in operational and decision business processes, and poor quality data result in poor quality processes, it is becoming increasingly important to supply management information systems with functionalities and services that allow one to control and improve the quality of the data resource.
5. *Data integration*: This has the goal of building and presenting a unified view of data owned by heterogeneous data sources in distributed, cooperative, and peer-to-peer information systems. While being an autonomous and well-grounded

research area, data integration will be considered in this book as strictly related to data quality, regarding two main issues, providing query results on the basis of a quality characterization of data at sources, and identifying and solving conflicts on values referring to the same real-world objects.

2.1.10 Data Governance system and Data integrity in Financial Statements

Lapses in data integrity are not limited to just fraud or falsification, they can be unintentional and still pose risk. Any potential for compromising the reliability of data is a risk that should be identified and understood in order for appropriate controls to be put in place. Data integrity breaches can occur at any time, by any employee, so management needs to be vigilant in detecting issues and understand reasons behind lapses, when found, to enable investigation of the issue and implementation of corrective and preventative actions. That is why business organizations must have appropriate data governance system in place.

Data governance is the sum total of arrangements which provide assurance of data integrity. These arrangements ensure that data, irrespective of the process, format or technology in which it is generated, recorded, processed, retained, retrieved and used will ensure a complete, consistent and accurate record throughout the data lifecycle. The need for the top management to establish controls to prevent, detect and correct data integrity breaches, and as well ensure that those controls are performing as intended to secure and sustain data integrity, should be prioritized in orhanisations..

2.1.11 Financial Data Integrity versus Financial Data Quality

Data integrity and data quality are the result of well-designed and executed organizational practices. For while both data integrity and data quality are desirable, neither of them single handedly describes the whole set of regulations, principles, and activities that govern data and information throughout the data lifecycle (Newton and White, 2015).

Data integrity can be referred to as the maintenance of, and the assurance of the accuracy and consistency of data over its entire life-cycle. Newton and White (2015)

viewed Data quality as that which ensures clear understanding of the meaning, context, and intent of the data. However, Wiki source defined it as the condition of a set of values of qualitative or quantitative variables It further described as the processes and technologies involved in ensuring the conformance of data values to business requirements and acceptance criteria.

Although Firth, Mellor, and Pang (2005) referred data quality to as the fitness of data for its purpose, Orr (1998) described it as the measure of agreement between the data views presented by an information systems and that same data in the real world.

Data is generally considered of high quality if it is fit for its intended uses in operations, decision making and planning. Alternatively, data is deemed of high quality if it correctly represents the real world construct to which it refers.

According to Orr (1998), no serious information system has or ever maintained a data quality of 100%, for the real concern with data quality is not to ensure that the data quality of any given organization is perfect but that the quality of data in an organization's information system is accurate enough, timely enough, and consistent enough for the organization to survive and make reasonable decisions. Quality and integrity of data may be considered afterall as being similar but in actual sense, mutually independent such that it is possible for financial information/data disclosures of an organization to have integrity without evidences of quality presentation, or have quality presentation without any iota of integrity.

2.1.12 Levels of Data Quality

According to Firth, Mellor, and Pang (2005), three discrete but interrelated levels of data quality exist. These are syntactic, semantic and pragmatic data quality levels.

a. ***Syntactic data quality*** maintains emphasis on the structure of symbols such Naira and Kobo (N/K) symbols, Dollar and Cents ($) symbols etc. It focuses more on "the form" of data rather than "its meaning". The goal of syntactic data quality is consistency where data values for particular data elements use a consistent symbolic representation, for example local currency or foreign currency (Firth, Mellor, and Pang, 2005).

b. ***Semantic data quality*** looks at the meaning of data and focuses on how data symbols such as N for Naire or $ for US Dollars are used to represent things or transactions in the real world.

   The goals of semantic quality are completeness, accuracy and currency (Firth, Mellor, and Pang, 2005).

   Considering these goals closely, Completeness centres firmly on the extent to which the data under consideration is directly corresponded or linkable to real world business situation it purports to represent in the market system. However, Accuracy and Timeliness give more clear explanation as to how well such data really represents the state of the real world business it had earlier being linked to while screening further to ensure that the data in question are up-to-date to the period it claims to period.

c. ***Pragmatic data quality*** is concerned about the usability and usefulness of data by relevant stakeholders, users, or third parties in carrying out or making vital investment decisions in the competitive business environment. This level of data quality is a concept that tends to ask questions on who uses the information? For what purpose is the data used, and in what context (investment or performance assessment)?.

   It is quite essential that users understand that while Usability points to the degree at which stakeholders or users of the data are able to access and maximize such data most effectively, the Usefulness aspect tend to emphasis on the degree at which such stakeholders or users of the data are assisted or enabled by such data in making positive and vital corporate decisions within the competitive market environment.

2.1.13 Laws of Data Quality

Orr (1998) had earlier in his stud- Data quality and system theory outline six (6) laws of data quality. These are:

i. Law 1: Data which is not used cannot be correct for very long.
ii. Law 2: Data quality in an information system is a function of its usage, not its collections.
iii. Law 3: Data quality will, ultimately be no better than its most stringent use.

iv. Law 4: Data quality problems tend to become worse with the age of the system.
v. Law 5: The less likely some data attributes (element) is to change, the more traumatic it will be when it finally does change.
vi. Law 6: Laws of data quality applies equally to data and meta data (the data about the data).

2.1.14 Characteristics of quality financial data

Lepădatu and Pîrnău (2009) are of the opinion that the key qualitative characteristics of financial information are:

a. ***Relevance:*** The information is relevant when it influences the economic decisions of users by helping them evaluate past, present and future events or to confirm/correct their past evaluations. The relevance of information is affected by its nature and materiality (which is always the threshold for relevance). Overload information can obfuscate information, making it hard to sift though the relevant nuggets making interpretation difficult.
b. ***Reliability:*** Information should be free from material errors and bias. The key aspects of reliability are faithful representation, priority of substance, neutrality, prudence, and completeness
c. ***Comparability:*** Information should be presented in a consistent manner over time and consistence between entities to enable users to make significant comparisons.
d. ***Understandability:*** Information should be readily understandable by users who are expected to have a reasonable knowledge of business, economics and accounting and willingness to study the information with reasonable diligence.
e. The process of producing useful information includes a number of decision aspects, which may constrain the amount of information provided. These include:
f. ***Timeliness:*** A delay in reporting may improve reliability at the cost of relevance.
g. ***Benefit vs. Cost:*** Benefits derived from information should normally exceed the cost of providing it.
h. ***Balancing of Qualitative Characteristics:*** to meet the objectives of financial statements and make them adequate for a particular environment. Providers of information must achieve an appropriate balance among qualitative characteristics.

While it has long been recognized that data accuracy is critical to data quality, the topic has not been well studied. Prior work typically studies the reliability of data sources, *for example*, dependencies and lineage information of data sources to detect copy relationships and identify reliable sources, vote counting and probabilistic analysis based on the trustworthiness of data sources.

2.1.15 Users Confidence level and Information integrity

In using information, users need to assess their level of confidence in the integrity of the information available to them (Trites, 2013). Else, they could be misled to place risky reliance on such unsuspecting information. Confidence in information integrity can come from many sources, including:

1) Additional information supplied by the party responsible for the information, such as a description of the process that produced the information.
2) The reputation of the responsible party.
3) Knowledge possessed by the user, whether pre-existing or specifically obtained for the purpose of evaluating the integrity of the information.
4) Validation of the information by a third party with knowledge sufficient to evaluate the integrity of the information which may or may not be in the context of a professional engagement.
5) Obtaining a report from an independent third-party based on procedures performed to evaluate the integrity of the information provided by the responsible party.

2.1.16 Tips to Ensure Financial Data Integrity

According to Summers (2016), the following qualities could be upheld by an organization in her effort to secure a commendable level of integrity in her Financial Statements.

a. *Foster collaboration and communication.* Financial management has to be an interactive endeavor- you cannot just lock the Accountants in their office and hope for the best! In our experience, the nonprofits with the biggest operational

challenges around finance are those in which the fiscal office is seen as separate or isolated from the rest of the organization.

The finance team requires input from and communication with program and development staff to create meaningful budgets, report accurately on grants, and understand cash flow needs. Likewise, program staff may need help from the finance department to understand their fiscal situation and be sure that their plans make programmatic as well as financial sense. So it's important that the finance team and their colleagues in other departments develop good relationships—both formally and informally. A monthly staff lunch can go a long way!

b. *Establish proper oversight.* "Internal controls" is a buzzword that generally connotes protections against employee theft and malfeasance. And it is unquestionably important to take steps to ensure that resources aren't improperly diverted away from mission-advancing activities. But a structure of segmented responsibilities and strong oversight is just as important for finding and correcting the honest mistakes we all make, and which are much more common than dishonest ones.

c. *Maximize technology.* The days of keeping the books in actual books are fortunately long behind us, with new technologies appearing all the time to streamline and automate accounting tasks. Technology helps to make financial reporting not just quicker and more efficient, but more accurate as well, since each manual process introduces the possibility of human error.

   Technology also opens up the possibility of reporting in much more detailed and sophisticated ways to answer important questions from internal as well as external audiences. Don't stop with the general ledger, either: time and expense reporting, requisitioning, fundraising, client tracking and billing can all be made more efficient and reliable by maximizing technological tools.

d. *Leverage professional expertise.* Your audit provides you and your organization's stakeholders with an independent assessment of the integrity of your financial statements. If you are engaging with your auditor only to pronounce on your finances after the fact, though, you are missing a great opportunity to leverage that expertise to make ongoing improvements to your financial systems. Your auditor

should be willing (and is usually eager) to provide advice on structuring internal controls, applying accounting rules, and improving financial reports. Remember that your auditor is independent, not adversarial: feel free to ask questions, share challenges, and take advice.

e. *Involve the board.* An organization's financial statements, and thus the financial picture that it presents to the world, is ultimately the responsibility of its board of directors. Board members should be willing (and encouraged) to dig deeply into the numbers and to understand what financial reports are saying about the organization as a whole.

2.1.17 Financial Ratios and Financial Data integrity

The consequences of poor data quality are experienced in everyday life but often without making the necessary connections to their causes.

This study thus evaluated the relative performance of two competing models and financial ratios by comparing the specification and power of commonly used test statistics. These are the Benford's law and the Beneish Predictive ratios herein referred to as the B & B models.

2.1.17.1 Benford's Law

The story of Benford's Law, also known as the first-digit law, began in 1881 when the American astronomer Simon Newcomb noticed that books of logarithm table always seemed grubby on the early pages and clean towards the back.

In 1938, a Physicist named Frank Benford discovered that the digits of naturally occurring numbers such as death rates, areas drained by rivers, populations of cities, and many other phenomena are distributed in a predictable non-uniform manner such that if one were to examine the leading or first digit of a large set of such data, the number '1' would appear in about 30.1 per cent of the cases; '2' would appear in about 17.6 per cent; '3' would appear in about 12.5 per cent and so on in decreasing fashion. The number '9' would occur in only about 4.6 per cent of the cases (Asllani and Naco,

2014). According to Simkin (2010), what Frank Benford discovered was that the lead digits were not uniformly distributed as one might summarise. Rather, the number 1 is by far the most likely to occur, followed by 2, 3 and so forth.

To apply Benford's Law, therefore, an Accountant must count the number of times a 1 appears as the lead digit in the data values, the number of times a 2 appears, et cetera, and then examine the resulting frequency distribution. The distribution is believed to be "natural" when it follows Benford's distribution, otherwise suspicion becomes the case.

As an advanced digital analysis technique that involves examining the actual frequency of the digits in the data, Benford's Law is a mathematical tool that proposed a probability distribution for first, second and other digits of numbers in data sets (Aris et al, 2013). The law calculates that numbers in sets of data with low first digits such as 1 occur with more frequency than numbers with high first digits like 8 or 9. Valid, unaltered data without exceptional transactions will follow the projected frequencies. Literature in Mathematics, Statistics, and Economics suggests that examining the distribution of the first or leading digits (for example the leading digit of the number 217.95 is 2) of the numbers contained in a dataset allows users to assess the level of error within the underlying data.

The probability that a number has any particular non –zero first digit is:

$P(d) = \text{Log}_{10}(1+1/d)$

First Digits numbers: $(D_1 = d_1) = \text{Log}(1+1/d_1))\ d_1 = (1,2,3\ldots9)$

The second digit number: $(D_2 = d_2) = \text{Log}(1+(1/d_1d_2))$; $d_2 = (1,2,3,..0)$.

First Two Digit numbers: $(D_1D_2 = d_1d_2) = \text{Log}(1+(1/d_1d_2))$

$$(D_1= d_2 / D_1= d_2) = \text{Log}(1+(1/d_1d_2)/ \text{Log}(1+(1/d_1))$$

Where:

D = number of 1,2,3….9,

P = probability

D_1 = first digit of a number

D_2 = second digit of a number

Table 2.4: Benford's Law Expected frequencies

Digit	**1st Place**	**2nd Place**	**3td Place**	**4th Place**
0		.11968	.10178	.10018
1	.30103	.11389	.10138	.10014
2	.17609	.19882	.10097	.10010
3	.12494	.10433	.10057	.10006
4	.09691	.10031	.10018	.10002
5	.07918	.09668	.09979	.09998
6	.06695	.09337	.09940	.09994
7	.05799	.09035	.09902	.09990
8	.05115	.08757	.09864	.09986
9	.04576	.08500	.09827	.09982

Source: Nigrini (1996)

In using Benford's Law, one must start with measuring deviation. The deviation of the distribution of digits between what is observed and what is expected in many ways. One method is the Chi Square test, a standard statistical test for measuring the degree of similarity between elements in a table (Tota, Aliaj and Lamçja, 2016).

Based on this statistics and the number of degrees of freedom, it is possible to assign a probability that any variation between actual and observed is due to chance alone. The higher the Chi Square, the less likely that any difference can be explained by chance alone (Tota, Aliaj and Lamçja, 2016).

$$z = (1(p_0 - p_e\ 1 - 1/\ (2n))/s_1$$

where

p_0 = the observed proportion in the data set.

p_e = the expected proportion based on Benford's law.

s_1 = the standard deviation for a particular digit

n = number of observation

1/2n = continuity factor often used when smaller than the absolute value term.

s_1 is however calculated as $[p_1 * (1-p_1)/n]^{1/2}$

As in any statistical test, the digital analysis compares the number of items observed to the expected and calculates the deviation. The expected distribution of digit frequency is a logarithmic distribution that appears visually like a Chi square distribution. Such a distribution deviates significantly from a normal or uniform distribution (Durtschi, Hillison and Pacini, 2004).

An extension of z-statistics which test only one digit at a time is the Chi square test. The Chi square test usually combines the result of testing each digits expected frequency with actual frequency into one test statistics that indicates the probability of finding the result. In general, the Chi square test will be less discriminatory than the individual z-tests result but will result in fewer false positives (Durtschi, Hillison and Pacini, 2004).

This principle can be deployed by Internal Auditors, Forensic Accountants, and External Auditors to spot irregularities including possible error, financial data alterations or other anomalies in revenue or turnover, accounts payable, fixed asset values, employee expenses, income tax forms, claims payments and other disbursements. As a result, Accountants and Auditors have begun to apply Benford's law to corporate data to discover number-pattern anomalies**.** Thus, Asllani and Naco (2014) believes that if the actual distribution of the digits from a data set of accounting transactions does not follow these distributions, then there is reason to believe that data is manipulated by human intervention, and as such these data sets must be further investigated for potential fraud. While Benford analysis by itself might not be a sure-fire way to catch fraud, it can be a useful tool to help identify some accounts for further testing and therefore should assist Auditors in their quest to detect fraud in Financial Statements (Tota, Aliaj and Lamçja, 2016).

Upon proper application of the Benford's Law and the discovery of possible distortions in the disclosure of financial data in the company's accounting records or Financial Statements, further investigation could be made on the financial data set

under review by deploying effective anti-financial data manipulation models like the Beneish Predictive model to pinpoint key sensitive probable areas in the company's accounting system that might have been subjected to possible financial data manipulation activities. Benford's Law analysis can be used to examine transactional data for unusual transactions, amounts, or patterns of activity.

Fraud detection mechanisms should be focused on areas where preventive controls are weak or not cost effective. It is likely useful when applied under several conditions. For instances, set of numbers that result from mathematical combination of numbers whereby the result come from two distributions, for example account receivable (number sold x price); transaction-level data where sample is not needed, for example disbursement, sales, expenses; on large database set, full year's transactions, will provide more accurate result.

Simkin (2010) expresses confidence that using data for a complete year is often considered the best way to approach and carry out the analyses more effectively. This distribution of first digits is known as the Benford distribution, and data exhibiting this distribution are said to conform to Benford's Law (Tota, Aliaj and Lamçja, 2016).

2.1.17.1.1 Benford's Analysis usefulness in Accounting/Auditing

Durtschi, Hillison and Pacini (2004) noted that the Benford's law can be very reliable in Accounting and Audit practice under the following conditions namely:

1. When sets of numbers that result from mathematical combination of numbers such that the result obtain comes from two or more distributions, for example, Account receivables (numbers sold * price), Account payable (number purchased * price) et cetera.
2. When transaction data such as disbursements, sales/turnover,revenue, expenses etc are involved.
3. When large data sets are involved- the more the observation, the better, for example, full year transaction.
4. Accounts that appear to conform especially where the mean of sets of numbers is greater than the median and the skewness is positive, for example most sets of accounting numbers does usually conform.

However, they noted that application of Benford's law will be irrelevant in the following situation:

a. Where data set are comprised of assigned numbers, for example Cheque numbers, invoice/receipt numbers, Zip code etc.
b. If numbers involved are influenced by human thoughts, for example prices set at psychological threshold, for example N100 monthly ATM maintenance charges.
c. Account with a built in minimum or maximum (fixed) transaction limits, for example a given set of asset with fixed amount.
d. Where no transaction is recorded, for example theft, kickbacks, contract rigging etc.

2.1.17.1.2 Procedures for applying the Benford's Law

1. Perform digital analysis of each data set using a software program called NigriniCycle.xlsx, which is an Excel program created by Nigrini.

2. Analyse the relevant numbers from selected company's publicly published Financial Statements.

3. Compile the numbers for all ten (10) years to get sufficiently massive data.

4. Omit numbers such as page numbers, dates, the numbers of notes, references to time (for example, depreciation over ten years or ninety-day notes).

5. Omit numbers that were sub-totals or totals that did not convey any new information. For example, subtotals of total current assets or total current liabilities can be omitted. Since these subtotals and totals are the sums or differences between items and do not reflect any new information, they cannot be manipulated.

6. To assess each digit test's conformity to Benford's Law, a test called the Mean Absolute Deviation (MAD) is used, as per NigriniCycle.xlsx. By referring to a range of MAD values, which is given on a table, the results can be evaluated for conformity to Benford's Law to indicate the degree of possible fraud. The higher the MAD value, the larger the difference between the actual and expected values and the higher the chances of fraud.

The other benchmark for conformity used in this model is the Z-Statistic, which is automatically generated after the test is conducted. According to Overhofe (2011), the Z-Statistic of Benford's law measures the size of the deviations between the expected and the actual values. The larger the Z-Score (commonly 1% at 2.58, 5% at 1.96, or 10% at 1.65), the less likely it is that the result is due to chance. According to Benford's law, after analyzing the test results the conclusions will be given in the following order. Since there was overall non-conformity to Benford's Law in the first digit's test, this signals that the data set may have had abnormal duplications and anomalies.

Table 2.:5 Benford's Law decisions criteria

DIGITS	RANGE	DECISIONS
First Digits	0.000 – 0.006	Close conformity
	0.006 – 0.012	Acceptable conformity
	0.012 – 0.015	Marginally acceptable conformity
	Above 0.15	Non conformity
Second Digit	0.000 – 0.008	Close conformity
	0.008 – 0.010	Acceptable conformity
	0.010 – 0.012	Marginally acceptable conformity
	Above 0.012	Npn conformity

Source: Mehta and Bhavani (2017).

2.1.17.2 Beneish Predictive Model

This essential financial ratios were first developed in 1997 as 5-factored variables by Professor Beneish but later improved to 8-predictive variables in 1999, to enable professional accountants in Academics and in the industries strengthen their quest to detect and deter fraud and earnings manipulation in the financial statements of corporate organizations.

Unique as they appear, the 8 variables can be used individual as predictive and detective tools and collectively as a complete model towards obtaining a score known as M-Score. The output of this M-score is usually weighed against a general

benchmark -2.22 towards understanding whether a company has creatively produced the revenue reported in the Financial Statements or not.

However, the individual 8 predictive variables are not without their individual scores or benchmark that could readily help any concerned professional Accountant or Accounting Academics predict the creative accounting tendencies of a company based on the outcome of its current year performance as depicted in her published Financial Statement.

Based on an eight factor model that gives a score.
M Score = -4.840 + 0.920 x DSRI + 0.528 x GMI + 0.404 x AQ + 0.892 x SGI + 0.115 x DEPI - 0.172 x SGAI - 0.327 x LVGI + 4.697 x TATA
Where:

1. Days Receivable Index (DSRI): Sales and receivables (credit sales or debtors) typically stay in fairly consistent trend. If the ratio detects a rise in receivables (debtors) the change might result from revenue inflation. The DSRI is an example of how the ratio might give a false signal. An explanation of a rising DSRI might be the perfectly legal activity of a company extending more credit to customers. This ratio is calculated as:

$$DSRI = [(\text{Net Receivables}_t / \text{Sales}_t)] / [(\text{Net Receivables}_{t-1} / \text{Sales}_{t-1})]$$

2. Gross Margin Index (GMI): Comparing the gross margins from one period to the previous period produces the gross margin index. Finding a high GMI means auditors and CFEs should look deeper into reporting of sales and cost of goods sold. This ratio is calculated as:

$$GMI = [(\text{Sales}_{t-1} - \text{COGS}_{t-1}) / \text{Sales}_{t-1}] / [(\text{Sales}_t - \text{COGS}_t) / \text{Sales}_t]$$

3. Asset Quality Index (AQI): The AQI measures the proportion of total assets for which future benefits are uncertain. This index reflects the change in asset realization risk by comparing current assets and property, plant, and equipment with total assets.

It is worthy of note that securities is approximated by total long term investments. This ratio is calculated as:

$$AQI = [1 - (\text{Current Assets}_t + \text{PP\&E}_t + \text{Securities}_t) / \text{Total Assets}_t] / [1 - ((\text{Current Assets}_{t-1} + \text{PP\&E}_{t-1} + \text{Securities}_{t-1}) / \text{Total Assets}_{t-1})]$$

4. Sales Growth Index (SGI): Companies with high growth rates find themselves highly motivated to commit fraud when the trend reverses. Shareholders from inside and outside the company expects that growth to continue and those expectations pressure managers to produce. This ratio is calculated as:

$$SGI = \text{Sales}_t / \text{Sales}_{t-1}$$

5. Depreciation Index (DEPI): This suggests that the firm might be revising useful asset life assumptions upwards, or adopting a new method that is income friendly. This ratio is calculated as:

$$DEPI = [\text{Depreciation}_{t-1}/ (\text{PP\&E}_{t-1} + \text{Depreciation}_{t-1})] / (\text{Depreciation}_t / (\text{PP\&E}_t + \text{Depreciation}_t))$$

6. SG&A Expense Index (SGAI): This is used on the assumpton that analysts would interpret a disproportionate increase in sales as a negative signal about firms future prospects. This ratio is calculated as:

$$SGAI = [\text{SG\&A Expense}_t / \text{Sales}_t] / [\text{SG\&A Expense}_{t-1} / \text{Sales}_{t-1}]$$

7. Leverage index (LVGI): This measures the ratio of total debt to total assets versus prior year. It is intended to capture debt covenants incentives for earnings manipulation. This ratio is calculated as:

$$LVGI = [(\text{Current Liabilities}_t + \text{Total Long Term Debt}_t) / \text{Total Assets}_t] / [(\text{Current Liabilities}_{t-1} + \text{Total Long Term Debt}_{t-1}) / \text{Total Assets}_{t-1}]$$

8. Total Accruals to Total Assets (TATA): This assesses the extent to which managers make discretionary accounting choices to alter earnings. These ratios are not silver bullets but did prove to be consistent indicators of problems in Beneish's study (Beneish, 1999). Research continues to provide detection devices that can speed the process of ferreting out fraud. This ratio is calculated as:

$$TATA = (\text{Income from Continuing Operations}_t - \text{Cash Flows from Operations}_t) / \text{Total Assets}_t$$

Weighing the outcome of the 8-predictive variables to the model, the following benchmarks could be utilized:

DSRI > 1.465 = Possible inflation of revenue data, long stretching of credit collection period to boost more turnover so as to recognize revenue earlier enough in the current year's financial record even though cash for the said sales are recoverable the following year. (≤ 1.031 as no financial data falsification region).

GMI > 1.193 = Signifies that Gross margin of company is deteriorating and company is more likely to take to financial data alteration measures to maintain confidence in her shareholders and the investors (≤ 1.014 as no financial data falsification region).

AQI >1.254 = Tendencies of capitalizing and deferring costs that should have been expensed. (≤ 1.039 as no financial data falsification region)

SGI >1.607= firms under possible pressure to alter figures in her favour so as to keep up appearance in the competitive market (≤ 1.134 as no financial data falsification region).

TATA > 0.031 = Accruals possibly used to engage in financial data alteration. (≤0.018 as no financial data falsification region).

DEPI > 1 = Tendencies of Assets being depreciated at a slower rate of depreciation to boost earnings. Thus, company could be making changes in her

accounting policies by embracing revenue friendly depreciation policies

SGAI ≤ -1.0 = Company pushed into possible financial data manipulation to defer costs and expenses and consequently improve her profitability picture.

LVGI > 1 = Reflecting pictures of Increase in leverage. An increase in the indicator subjects a firm to a greater risk of violating debt covenants and engage in creative accounting activities in other to avoid a breech.

2.1.17.2.1 Procedures for applying the Beneish Predictive Model

1. Calculate the eight variables of the M-Score Model.

2. Enter the appropriate data to all variables used in the model's equation to calculate and obtain the M-Score. The study employed the customized Microsoft Excel equivalent of the model for ease, consistency of repeated procedures and reliability of results obtained.

3. After calculating the M-Score, use the output of the analysis as obtained to judgmentally categorize the financial information of the company assessed as either faithfully represented/possessing integrity (if the M-Score >-2.22) or unfaithfully represented/not possessing integrity (if the M-Score <-2.22).

2.1.18 Conceptual Framework for the study

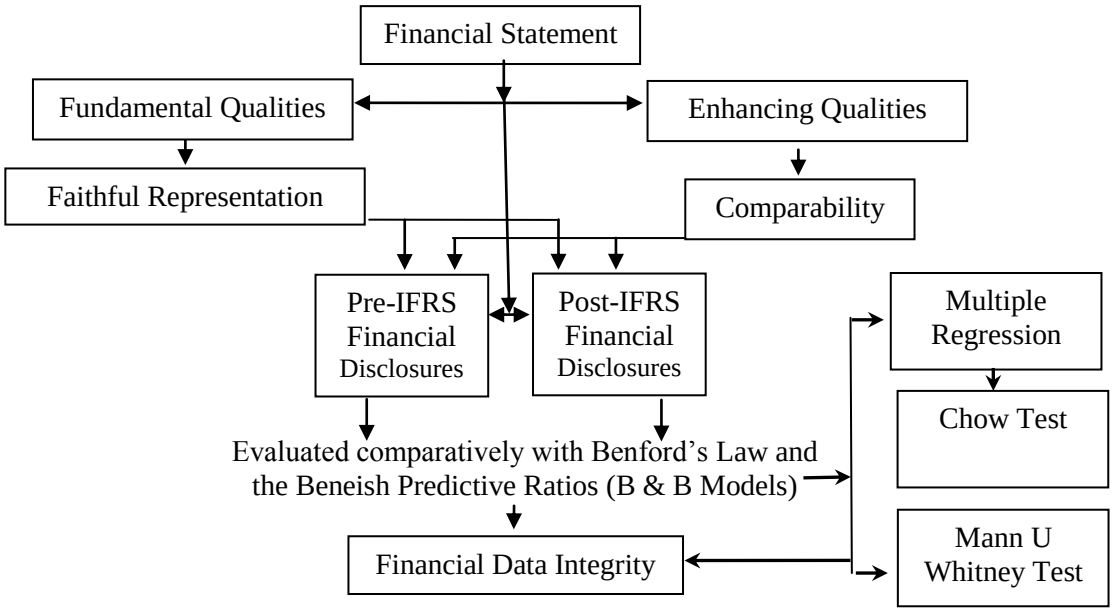


Figure 2.3: Conceptual Framework for the study

Source: Author's concept

The above framework conceptualizes the study as bent on evaluating the financial data integrity of Financial Statements of listed public manufacturing companies in Nigeria, maintaining unique emphasis on two major categories of qualitative characteristics of a Financial Statement as in the IASB-FASB joint Conceptual Framework document of 2010 namely the Fundamental qualities and Enhancing qualities.

However, it pegs commendable focus on the Faithful representation qualities (*Fundamental quality*) and the Comparability qualitative characteristic (*Enhancing quality*) of Financial Statements. The goal is to evaluate the quality of the financial data disclosures obtainable from Financial Statements of Nigeria public listed manufacturing companies, comparing the outcome of such concise evaluation in the Post-IFRS with those of the selected companies in the pre-IFRS financial periods. This is to enable the study not just to be able to obtain a more faithful representation trend status of the financial disclosure practices of selected public listed

manufacturing companies in Nigeria during these two periods but to also better understand if some of the reasons that motivated the prompt movement of the country to the adoption and implementation of IFRS financial reporting guidelines- to boost accountability and transparency in reporting entity's annual financial reports, has been achieved or tremendously improved on.

Given this observation, the deployment of the Benford's law and the Beneish Predictive Ratios (B & B model) is considered very crucial to the realization of the goal (evaluating the financial data integrity of Financial Statements of listed public manufacturing companies in Nigeria) which actually motivated the pursuit of this empirical study. While the Benford's Law is initially deployed in the study to help it identity financial disclosures in the Financial Statements whose first digit may have been manipulated through human intervention due to its possible failure to follow Benford's Law expected distribution frequency, the Beneish Predictive ratios is adopted as an extensive evaluative measure in the study to help pin point or detect such possible areas and classifications in the Financial Statements whose figures may have been falsely, deceptively or incompletely disclosed by companies during financial reporting exercise.

It is the study's conceptual belief that until a company's financial disclosures (the digits and the totals) practices, however sound the company's compliance attitude to IFRS minimum disclosure requirements may be, has been carefully weighed and assessed comparatively from its pre IFRS financial reporting activities to its post IFRS financial reporting events, Forensic Auditors, Investigators and the Internal Auditors' understanding of the true integrity status of such company's financial reporting practices (whether it is obtainable, has been improved on, deteriorating or the same as before) will be greatly undermined.

It is in this regards that further analyses was designed for execution to enable the research substantiate the reliability strength of results earlier obtained through the B & B Models. As a result, analyses outome of various hypotheses testings using the Multiple Regression statistical tool, Chow Test, and the Mann Whitney U Test are expected to help the study reach a more convincing and realistic conclusion as to whether the quality of financial data disclosures of pre IFRS and post IFRS Financial

Statements in Nigeria which should help boost the level of investors' confidence and decision making efficiency are comparable and faithfully represented.

2.19 Test of Normality

According to Marczyk, DeMatteo, and Festinger (2005) a factor that can lead to faulty interpretations of statistical findings is the failure to consider the characteristics of the distribution.The calculation of p-values for hypothesis testing typically is based on the assumption that the population distribution is normal. In order to use *parametric tests* (for example, t-tests, linear regression), the distribution of data should meet certain requirements (e.g., normality), and failure of such might lead to a biased or inaccurate result. Ordinarily, two measures are used to test whether the data is normally distributed: *skewness*, which measures the symmetry of the values around the mean, and *kurtosis* which indicates whether the distributions have bigger tails of more extreme observations than might normally be expected.

To test for normality, the study employed three techniques: *Kolmogorov–Smirnov* and *Shapiro–Wilks* test. Researchers are often of the opinion that the use of statistical techniques in checking for normality is easier and precise, than their graphical counterparts (for example Q-Q plots) since actual probabilities is calculated.

The hypotheses used are:

H_0: The sample data are not significantly different than a normal population.

H_1: The sample data are significantly different than a normal population.

So when testing for normality:

- Probabilities > 0.05 mean the data are normal.
- Probabilities < 0.05 mean the data are NOT normal.

2.19.1 The Kolmogorov–Smirnov formula

The following formula is used in conducting the Kolmogorov–Smirnov test of normal distribution:

$$\mathbf{KS} = \max_j \sqrt{\frac{1}{n}\sum_i n_i \left(F_i(x_j) - F(x_j)\right)^2} \quad \text{where } j = 1, 2, \ldots, n$$

The test statistic 'D' is simply given by:

D = max [Cum Obser. Freq – Cum Expect. Freq]

The largest difference (irrespective of sign) between observed cumulative frequency and expected cumulative frequency.

The critical value at the 5% level is given by:

$$D \text{ (at 5\%)} = \frac{1.36}{\sqrt{Q}}$$ where Q = the number of quadrats

2.19.2 The Shapiro-Wilk test

The following formula is used in conducting the Shapiro-Wilk test of normal distribution:

If $D_n < D_n^{\alpha}$, the theoretical distribution is acceptable
If $D_n \geq D_n^{\alpha}$, the theoretical distribution is rejected

The Shapiro-Wilk test is a way to tell if a random sample comes from a normal distribution. The test gives you a W value, calculated as shown below;

$$W = \frac{\left(\sum_{i=1}^{n} a_i x_{(i)}\right)^2}{\sum_{i=1}^{n}(x_i - \overline{x})^2}$$

Where:

x_i = the ordered random sample values

a_i = constants generated from the covariances, variances and means of the sample (size n) from a normally distributed sample.

2.2 THEORETICAL FRAMEWORK

Theories have often served as yardstick for the effective pursuit of any given or well defined research study. However, two major theories have been considered for the effective realization of the study's dream:

1. Theory of Regulatory Compliance (TRC).
2. Supportive Theories of Benford's Law and Beneish model

2.2.1 Theory of Regulatory Compliance (TRC)

The Theory of Regulatory Compliance (TRC) was first proposed in the 1970's when the relationship between compliance with rules was compared to compliance with best practice standards and outcome data.

Outcome of the investigation became clear that as facilities were in 100% compliance with all rules, their overall best practice scores and positive outcomes began to drop off. This result also led to the conclusion that possibly being in "full" or 100% compliance with all rules was not necessarily a good policy and that all rules or regulations are not created equal.

The Theory (TRC) maintains emphasis on selecting the right rules rather than having more or less rules and the nature of these rules as being significantly predictive of positive outcomes by being in compliance with said rules (Fiene, 2016).

The Theory of Regulatory Compliance (TRC)1 deals with the importance and significance of complying with rules or regulations. This theory has implications for all rule, regulatory, and standards development throughout human service and economic domains although the research is being drawn from the human services

field. Regulators continue to endorse and encourage (by regulation) the use of the standard when establishing a compliance framework.

The the International Accounting Standard Board (IASB) in the United Kingdom has a regulatory framework that all adopting publicly listed companies should follow while preparing their annual reports. It provides the core Financial Statements that must appear in a yearly report, and they include; Statement of Financial Position, Statement of Comprehensive Income, Statement of Changes in Equity, Statement of Cash flow and notes to the accounts as required under International Financial Reporting Standards. If further demonstrates the relationship that subsists among shareholders, management and the independent Audit teams.

It is critical that all firms be guided by a universal code of corporate governance to enable companies respond to issues that concern shareholders in a manner that enhances the effectiveness of organizational governance principle. Moreover, there are certain aspects of information that when not emphasized cannot be provided to the shareholders. Thus, the framework plays a critical role through its emphasis on statutory extensive disclosure in highlighting all the items that it considers vital for the shareholders.

2.2.2 Supportive Theories of Benford's Law and Beneish Model (B & B models)

a. ***Spread Theory***: This theory says that if a data set is distributed over several orders of magnitude, then the leading digits will approximately follow Benford's law. Exceptions from this leads to deviation of the distribution of digits between what is observed and what is expected in many ways. Qualifying the location of this deviation is the essence of the Beneish Model.
b. ***Geometric Growth Concept***: The idea is that if we have a process with a constant growth rate, then more time will be spent at lower digits than higher digits. (Miller, 2010 cited in Tota, Aliaj and Lamçja, 2016), The amount of time is takes to move from N1 to N2 is the same as it would take to move from N10,000 to N20,000, or from N100,000,000 to N200,000,000. Any unusual/unnatural emphasis on higher digits than obtainable, for example, moving from N1 to N3 readily undermines the beliefs of the Beneish model and the guiding principles of

the Benford's Law. To Tota, Aliaj and Lamçja (2016), many natural and mathematical phenomena are governed by geometric growth.

c. ***Central Limit Theorem:*** in the light of this theorem, it is believed that there are many data sets in the world whose values are the product of numerous measurements. By the Central Limit theorem, if n is large then the above sum is approximately normally distributed, and the variance will grow with n; however.
The general rule is that the data set should have at least 1,000 records before a good conformity to Benford's Law is expected. For database with fewer than 1.000 records, the Benford-related tests still can be run but evident larger deviations from the Benford's Law application should be expected even before conclusion as to the conformance of the data to the law is reached (Nigrini, 2012).

Another general rule is that the first-two digit frequencies of data sets should not be tested with fewer than 300 records. The first digit test (with all its flaws) should be used on small data sets. For data sets with fewer than 300 records, the records can simply be sorted from largest to smallest and the pages visually scanned for anomalies (Nigrini, 2012 cited in Tota, Aliaj and Lamçja, 2016),

Mehta and Bhavani (2017) deployed the Beneish M-Score, the Altman Z-Score and Benford's Law in detecting Fraudulent Financial Statement in Toshiba Corporation. Annual reports for the years 2008 – 2014 were assessed. The choice is based on the belief that the use of only one forensic tool to detect inappropriate financial data disclosures in the Financial Statements is highly inadequate.

2.3 EMPIRICAL REVIEW

Onalo, Lizam and Kaseri (2014) measured the quality of Financial Statement information of twenty (20) Nigeria banks using earnings management, timeliness of loss recognition and value relevance from 2008 – 2010 (pre-IFRS)) and 2011 – 2013 (post-IFRS). Relevant data extracts were assessed using OLS regression analysis and it was discovered that the pervasiveness of earnings management pattern via Loan Loss Provisioning identified as income minimization declined remarkably in the post IFRS adoption period. This is in view of the fact that Discretionary Accruals and

Discretionary Loan Loss Provisions significantly reduced in the post IFRS adoption periods.

Taiwo and Adejare (2014) evaluated the impact of adopting IFRS on the published Financial Statements of public companies using the survey research design. The views of 120 professionals in Accounting and Finance Unit of the selected companies were obtained with the aid of questionnaire and subjected to Chi-square and ANOVA statistical analyses. Their findings showed that there is a significant positive relationship between the adoption of IFRS and effective changes in Financial Statement format upheld for the financial report presented.

Abata (2015) surveyed the views of 50 employees of KPMG (a leading professional Audit firm) in order to determine whether financial reports prepared in compliance with IFRS legal and professional framework enhanced best practices in corporate organizations in Nigeria. However, the study bore a visible gap, as it was designed and approached descriptively (not empirically) such that the views of the samples selected for the study, not Financial Statements' disclosures/figures, were analysed and tested with Chi-Square to ascertain if adherence to IFRS requirements has indeed improved best practices in organisations' financial reporting practices, in comparison to what was obtainable under the Nigerian GAAP regime. Their findings showed that IFRS directly affects how earnings and other key aspect of the business are accounted for and reported.

Abata (2015b) adopted Total Comparability Index in empirically comparing the Financial Statements of 14 Banks listed in the Nigeria Stock Exchange in order to determine whether quantitative differences in the financial reports prepared by Nigerian listed banks under NGAAP and IAS/IFRS are statistically significant or not. The study found out that quantitative differences in the financial reports prepared under NGAAP and IAS/IFRS are statistically significant. However, the study did not make further effort at determining whether the significance of that quantitative differences discovered really improved or undermined the reliability or integrity of the financial data so compared in the study.

Mgbame, Donwa, and Agbonkpolor (2015) carried out a study to find out if IFRS adoption enhanced the uniformity, comparability, and reliability of the financial

statements of these sectors in Nigeria. Although they found out that IFRS promotes transparency, increases quality and efficiency of financial reporting, providing Financial Statements that boost investors' confidence (due to the robust disclosure requirements of IFRS) and facilitates cross-border Stock Exchange listing, these findings was purely based on the reviews they carried out on other written scholarly literatures related to their study.

Umoren, and Enang, (2015) adopted the Ohlson model, Descriptive statistics and Least Square Regression Analytical tools in empirically examining the financial reporting practices of twelve (12) publicly listed Nigerian banks from 2010 – 2013 (48 years observations) in order to determine whether the value relevance of financial information in the Financial Statements of these Nigerian commercial banks has been improved by the country's mandatory adoption of IFRS in January 1st, 2012. They found out that the accounting numbers presented in this study indicate that the earning per share, book value of equity and share prices of commercial banks have significantly improved from the pre IFRS periods- 2010 and 2011 to the post IFRS periods 2012 and 2013, following IFRS adoption. The study did not however, state comparatively whether the quality or integrity of the accounting numbers disclosed during the two periods- pre IFRS (2010 and 2011) and post IFRS (2012 and 2013) studied differed significantly or relatively the same.

Auwalu (2015) investigated the impact of International financial reporting standards on financial reporting quality among Nigerian listed companies. They found that there is a positive relationship between less-earnings management and financial reporting quality as a result of the adoption of IFRS. Although the study permitted the conduct of an empirical research that could have evaluated analytically, the value relevance of the disclosed figures of IFRS Financial Statements of undisclosed listed Nigerian companies, the researcher ended up producing his sensitive findings solely on the basis of reviews of related literatures carried out.

Yahaya, Fagbemi and Oyeniyi (2015) carried out an empirical study of nine (9) banks in Nigeria and examined their 2012 Financial Statement towards ascertaining the effect of IFRS implementation in Nigeria on the Financial Statement figures and key financial ratios of Nigerian Banks. After executing relevant analyses using Least

Squares Regression, it was discovered that there was a significant effect of IFRS implementation on the Financial Statement of Nigerian banks. Although the study noted that most of the data does not follow a normal distribution, such that there are large differences between means and medians even as the minimum and maximum values differd noticeably in some cases, it failed to give further practical evidence that could enhance readers understanding as to how the adoption and the implementation of IFRS in Nigeria may have affected the concerned banks' quality of accounting information/figures disclosed in their IFRS Financial Statements when compared to their NG GAAP based Financial Statement disclosures.

Jamiu (2016) in his study, investigated whether there existed any differences in the accounting figures and financial ratios of selected companies after their convergence to IFRS from NG-GAAP. The Wilcoxon signed-rank test statistical tool was adopted for the analysis carried out on the outcome of the relevant financial ratios analyses earlier executed using three Profitability Ratios- Return On Shareholders Fund (ROSF), Return On Capital Employed (ROCE), and Operating Profit Margin (OPM); one Liquidity Ratio- Current Ratio (CR), one Solvency Ratio- Gearing Ratio (GR), and one Investment Ratio- Earnings Per Share (EPS). His findings showed that there is a significant difference in adoption of IFRS impact on the Return on Shareholders' Fund obtainable in the two reporting regimes. It also discovered that the adoption of IFRS has had no significant impact on the Operating Profit Margin obtainable in the IFRS and NG GAAP reporting regime. The study however failed to give further consideration to determine whether the accounting information reported during these two different reporting periods as used in the study are the same or differ in the area of their quality and reliability.

Palea (2013) in his study laid emphasis on the effects of the adoption of IAS/IFRS in Europe on the quality of financial reporting, with keen interest on existing research works on value-relevance. Although an empirical study, an extant review approach was adopted by the researcher. Based on several reviews carried out by the study, he found out that adopting IAS/IFRS improves the quality of financial reporting and increases its usefulness to investors.

Using Pearson Correlation, Zaiyol, ,Egwu, and Udende (2017) examined the Financial Statements of 20 publicly listed companies in Nigeria for the years 2011 and 2015 in order to determine whether the adoption of International Financial Reporting Standards (IFRS) has improved accountability and quality of accounting information of companies in Nigeria. They found that the quantitative differences in the financial reports prepared under SAS and IFRS are statistically significant, implying that IFRS has impacted on accountability and quality of information from Financial Statement of Nigerian organization.

Umobong and Akani (2015) examined the Financial Statements of 4 listed Cement manufacturing firms and 7 listed Breweries companies, a total of 11 listed cement and breweries manufacturing companies, for the years 2009 -2013. The study tried to investigate whether any differences existed in the earnings management tendencies of the selected eleven (11) companies before and after the adoption of IFRS. The result of their regression analyses carried out revealed that earnings management has not declined after IFRS was adopted. They however noted that data from the post-IFRS period was too small to have showed any expected results.

Adeyemi (2016) conducted a study on the financial reports of 65 non financial institutions corporate organisations quoted on the Nigerian Stock Exchange for the period 2010 - 2014 to investigate the effect of IFRS adoption on earnings management of Nigerian non-financial quoted companies. Data extracts were analysed using Multiple Regression model. He however discovered that the adoption of IFRS is not a significant determinant of earnings management practices decline in the non-financial quoted companies in Nigeria.

Sani and Umar (2014) using Qualitative Grading System (QGS) assessed the 2012 financial reports of 10 selected commercial banks in Nigeria towards determining the extent to which the Nigerian Banking Industry has complied with the requirements of IFRS 1. Their result, after relevant analyses using Multiple regression analysis and Chi-square test statistical tool, showed that the Nigerian banking industry has complied with IFRS 1. However, the study failed to show us how this has led to high quality financial information disclosures by the selected banks seeing that this is also one of the priorities of IFRS 1.

Beest, Braam and Boelens (2009) developed and used a compound measurement tool that comprised a construct of 21-item index to assess the quality of financial reporting in terms of the underlying fundamental qualitative characteristics (i.e. relevance and faithful representation) and the enhancing qualitative characteristics (i.e. understandability, comparability, verifiability and timeliness) in 231 annual reports of companies listed at the US, UK, and Dutch Stock markets for the years 2005 and 2007. Scores derived through the content analysis were tested with the aid of Ordinary Least Square (OLS) regression analysis. Their findings showed that the quality of financial reporting based on the requirements of IFRS is increasing over time.

Yahaya, Yusuf and Dania (2015) examined the effects of the adoption of the International Financial Reporting Standards on the Financial Statements of banks in Nigeria. Using Logistic regression, figures extracted from the Financial reports of twenty one (21) deposit money banks in Nigeria for the periods 2004 – 2013 were subjected to relevant analyses. Findings made showed that IFRS adoption has positively impact the overall financial performance and position of banks. Under IFRS, important financial performance figures, such as profitability and growth, appear to be higher.

Shehu (2015) studied the 2008 to 2013 financial reports of fourteen (14) listed deposit money banks towards investigating the selected banks' attributes from the perspective of structure, monitoring, performance elements and the quality of earnings of listed deposit money banks in Nigeria. Extacted data were tested with the aid of multiple regression analysis statistical tool. The study found out that banks' attributes such as leverage, profitability, liquidity, bank size and bank growth have significant influence on earnings quality of listed deposit money banks in Nigeria after the adoption of IFRS, while the pre period shows that the selected banks' attributes has no significant impact on earnings quality. It is therefore concluded that the adoption of IFRS is right and timely.

Uwuigbe, Emeni, Uwuigbe and Ataiwrehe (2016) examined whether mandatory adoption of IFRS is associated with improvement in accounting quality of Nigerian banks listed on the Nigerian Stock Exchange. Empirical emphasis was based on the 2008 – 2013 Financial Statements of eleven (11) deposit money banks while data

extracts from their financial reports were analytically assessed using the Ordinary Least Square (OLS) regression analysis. Their findings, however, showed that the rate at which Nigerian banks engage in income smoothing increased in the post IFRS adoption period, while occurrences of such activities towards small positive earnings reduced thereby reducing the quality of accounting figures disclosed in the Financial Statements.

Eneje, Obidike and Chukwujekwu (2016), in their study, maximized the ordinary least square multiple regression analytical method in analyzing eleven (11) years financial reporting activities of twenty two (22) deposit money banks in Nigeria from 2005 – 2015. This was to enable the study examine the effect of IFRS adoption on the mechanics of loan loss provisioning for Nigerian Banks. Based on the result of the analysis, it was discovered that the limitation to recognize only incurred losses under IAS 39 significantly reduces income smoothing and delay recognition of future expected losses.

Onalo, Lizam, Kaseri and Otache (2014) sampled twenty eight (28) banks (8 from Malaysia and 20 from Nigeria) covering 2008-2013 financial reporting periods, and investigated whether the switch from Malaysia and Nigeria domestic GAAP to IFRS had any impact on the banks' earnings management via LLP. Using the Discretionary Loan Loss Provisioning (LLP) Regression Model, Loan Loss Provisioning (LLP) Earnings Management Pattern Regression Model, Non Performing Loan (NPL) Regression Model, and the Credit Quality model, data from these financial reports were empirically analysed. Their result reveals that earnings management pattern of income significantly declined as credit quality remarkably increased in the post IFRS adoption period. Closer study of the result showed that Malaysia and Nigeria banks use LLP to manage reported earnings more prior to IFRS implementation. With results demonstrating that IFRS adoption is associated with lower earnings management via Loan Loss Provisioning (LLP).

Bello, Abubakar and Adeyemi (2016) investigated the effect of IFRS adoption on earnings management of Nigerian non-financial quoted companies, applying the discretionary accruals based on modified Jones model on the financial reports of 68 non-financial companies from the periods 2010 to 2014. Result obtained showed that

the interaction of IFRS*BIG4 audit firm does not significantly affect the tendency of Nigeria companies to manipulate their earnings.

Beke (2011b) carried out a scrutiny on how the adoption of IFRS has reduced earnings management in corporate organizations in Hungary. Using the Logistic regression model, the Financial statements of 65 firms adopting IFRS and 260 local Hungarian companies applying the local accounting rules for the years 2006 (pre adoption year) and 2007 (post adoption year) was assessed. He however found out to the contrary that rather than experiencing inflationary income, the income level of concerned leaders of companies which adopted the IFRS decreased at a significance level of 5 %.

Mehta and Bhavani (2017) adopted the Beneish Model, Benford's law and the Altman Z-Score model in the investigation of the fraudulent financial reporting incidence in Toshiba, Japan for the years 2008 – 2014 towards appreciating comparatively, the efficacy of these investigative tools in unearthing relevant facts behind the scandal. They found out that the Beneish model, Altman Z-score model and the Benford's Law were extremely useful in detecting fraudulent financial statements published by Toshiba, but that is only when the outcome of the three Financial ratios are judgmentally evaluated.

Aris, Othman, Arif, Abdul Malek and Omar (2013) focused their review research on analysing the usage, process and application of Benford's Law and Beneish Model in detecting accounting fraud. Although their study paved room for empirical exprimentization of the model, the study failed to apply them. The study however discovered that the use of these two techniques will allow users of accounting data assist Auditors and Investigators in finding anomalies which can be translated into fraud occurrences by the organisation.

Tota, Aliaj and Lamçja (2016) in their study in the use of Benford's Law in detecting fraud in accounting data, some Albanian cases were revisited empirically with close emphasis laid on sales and purchases figures of the affected companies. They however discovered that Benford's Law can help to detect cases where fictional numbers are involved or at least can be used as a signal to audit.

Aris (2016) empirically assessed the 2010 – 2015 financial reports of PT Pertamina, Indonesia towards determining how the application of laws and Berneish Benford models are relevant in the analysis of corporate Financial Statements. However, the study's findings showed that the Benford's law and Beneish model's score were biased as the two digital analytical ratios were rather deployed as tools in predicting the risk of bankruptcy within the company instead of material misstatements.

Using Benford's law first, second, and first two digits analysis frame, Das (2017) conducted a study to examine whether the financial accounting data of 34,346 firm year observations of selected indian companies database from the Center for Monitoring Indian Economy (CMIE), Prowess database depart from Benford's Law distribution. The study covered the 2000 – 2014 reporting period even as the affected companies were categorized as either Business Group Firms or Standalone Firms. The study discovered that Benford's' law test is useful in the hands of Auditors to find out the data anomalies before auditing.

Pavtar (2017) empirically investigated the annual reports and accounts of 15 deposit money banks in Nigeria for the years 2008 – 2015 to examine the effect of mandatory adoption of IFRS on the value relevance of accounting information of listed deposit money banks in an emerging market like Nigeria. The outcome of the Ordinary Least Square (OLS) regression analysis revealed that value relevance of financial information of Pre and post IFRS adoption in Nigerian DMBs differed significantly.

Afiangbe, Eromonsele and Okoh (2017) examined the effects of compliance with the disclosure requirements of accounting standards on disclosure quality of all 10 oil and gas listed public listed companies in Nigeria as at 2014 for the years 2010 – 2014. Relevant hypotheses to the study were analysed using the Ordinary Least Square regression analytical tool and it was discovered that full compliance with disclosures requirement of the various accounting standards recommended and issued for adoption in the oil and gas sector was found to improve the disclosure quality although at different levels of significance.

Zakari (2017) investigated into whether the adoption of IFRS in the Nigerian Oil and Gas sector; leads to significant financial reporting improvement in terms of value addition and quality. Using the T-test (paired) statistical tool, outcome of ratio analysis conducted on extracts from the pre and post IFRS Financial Statements of four (4) companies in the Oil and Gas sector for years 2007 – 2016 showed that IFRS was more attractive and promising to long term lenders than the defunct Nigerian GAAP.

2.4 SUMMARY OF EMPIRICAL REVIEW

Given below is the table summary of the relevant literatures reviewed in this research work towards appreciating the extent to which the gap that prompted the need for this study is sensitive.

Table 2.6 Summary of Empirical Reviews

S/N	Name	Date	Topic	Methodology	Statistical Tools	Findings
1	Onalo, U., Mohd, L. & Ahmad, K.	2014	International Financial Reporting Standards and The Quality of Banks Financial Statement Information: Evidence from an Emerging Market-Nigeria	Empirical	Earnings Management Models and OLS regression analysis	The pervasiveness of earnings management pattern via Loan Loss Provisioning identified as income minimization declined remarkably in the post IFRS adoption period
2.	Taiwo, F.H. & Adejare, A.T.	2014	Empirical Analysis of the Effect of International Financial Reporting Standards (IFRS) Adoption on Accounting Practices in Nigeria	Survey	Chi-square and ANOVA	There is a significant positive relationship between the adoption of IFRS and effective changes in Financial Statement format upheld for the financial report presented.

Sources: Scholarly published literatures and Journal Articles

Table 2.6 Summary of Empirical Reviews continued

3.	Umoren, A.O. & Enang, E.R.	2015	IFRS Adoption and Value Relevance of Financial Statements of Nigerian Listed Banks	Empirical	Descriptive Statistics and Least Square Regression	The equity value and earnings of banks are relatively value relevant to share prices under IFRS than under the previous Nigerian SAS
4.	Mgbame, C.J., Donwa, P.A. & Agbonkpolor, O.R.	2015	International financial reporting standards (IFRS) and financial reporting implications	Extant Review	nil	IFRS promotes transparency, increases quality and efficiency of financial reporting, providing Financial Statements that boost investors' confidence (due to the robust disclosure requirements of IFRS) and facilitates crossborder Stock Exchange listing.
5.	Auwalu, M.	2015	Financial Reporting Quality in Nigerian Listed Companies	Literature Review	Nil	There is a positive relationship between less-earnings management and financial reporting quality as a result of the adoption of IFRS.
6.	Yahaya, K.A., Fagbemi, T.O. & Oyeniyi, K.K.	2015	Effect of International Financial Reporting Standards on the Financial Statements of Nigerian Banks	Empirical	Descriptive Statistics and Least Square Regression	There is a significant effect of IFRS implementation on the Financial Statement of Nigerian banks
7	Abata, M.A.	2015	Impact of IFRS on Financial Reporting Practices in Nigeria (A case of KPMG)	Survey	Chi-Square	IFRS directly affects how earnings and other key aspect of the business are accounted for and reported.
8	Abata, M.A.	2015 b	The Impact of International Financial Reporting Standards (IFRS) Adoption on Financial Reporting Practice in the Nigerian Banking Sector	Empirical	Total Comparability Index, and the Inferential statistics of One sample t-test	Quantitative differences that exist in the financial reports prepared under NGAAP and IAS/IFRS are statistically significant.

Sources: Scholarly published literatures and Journal Articles

Table 2.6 Summary of Empirical Reviews continued

9	Jamiu, M.	2016	The Impacts and Benefits of International Financial Reporting Standards on Financial Statements of Companies in Nigeria	Empirical	Wilcoxon, Return On Shareholders Fund (ROSF), Return On Capital Employed (ROCE), and Operating Profit Margin (OPM); Current Ratio (CR), Gearing Ratio (GR), and Earnings Per Share (EPS).	The adoption of IFRS has had no significant impact on the Operating Profit Margin obtainable in the IFRS and NG GAAP reporting regime.
10	Palea, V.	2013	IAS/IFRS and financial reporting quality: Lessons from the European experience	Extant Review	Nil	Adoption of IAS/IFRS improves the quality of financial reporting and increases its usefulness to investors.
11	Sani, S. & Umar, D.	2014	An Assessement of Compliance with IFRS Framework at First-Time Adoption by the Quoted Banks in Nigeria	Empirical	Qualitative Grading System (QGS), Multiple regression analysis and Chi-square	The Nigerian banking industry has complied with the requirements of IFRS 1.
12	Zaiyol, P.I., ,Egwu, A.A. & Udende, B.M.	2017	Impact of Ifrs Adoption on Accountability of Nigerian Organisations	Empirical	Pearson Correlation, Paired Sample	The quantitative differences in the financial reports prepared under SAS and IFRS are statistically significant, implying that IFRS has impacted on accountability and quality of information from financial statement of Nigerian organization.

Sources: Scholarly published literatures and Journal Articles

Table 2.6 Summary of Empirical Reviews continued

13	Umobong, A.A. & Akani, D.	2015	IFRS adoption and accounting quality of quoted manufacturing firms in Nigeria: A cross sectional study of Brewery and Cement manufacturing firms	Empirical	Regression analysis	Earnings management has not declined after IFRS was adopted.
14	Adeyemi, T.O.	2016	International Financial Reporting Standards Adoption and Earnings Management in Nigerian Non-Financial Quoted Companies	Empirical	Mutiple Regression	The adoption of IFRS is not a significant determinant of earnings management practices decline in the non-financial quoted companies in Nigeria.
15	Beest, F.V., Braam, G, & Boelens, S.	2009	Quality of Financial Reporting: measuring qualitative characteristics	Empirical	Compound 21-item index Measurement tool and Ordinary Least Square	The quality of financial reporting based on the requirements of IFRS is increasing over time.
16	Yahaya, O.A., Yusuf, M.J. & Dania, I.S.	2015	International Financial Reporting Standards' Adoption and Financial Statement Effects: Evidence from Listed Deposit Money Banks in Nigeria	Empirical	Logistic regression analysis	IFRS adoption has positive impact on the overall financial performance and position of banks. Under IFRS, important financial performance figures, such as profitability and growth, appear to be higher.
17	Beke, J.	2011 b	International Accounting Standardization and Economics Practice	Empirical	Logistic regression model	The income level of concerned leaders of companies which adopted the IFRS decreased at a significance level of 5 %.

Sources: Scholarly published literatures and Journal Articles

Table 2.6 Summary of Empirical Reviews continued

\18	Shehu, U.H.	2015	Adoption of International Financial Reporting Standards and Earnings Quality in Listed Deposit Money Banks in Nigeria	Empirical	Multiple regression analysis	Banks' attributes such as leverage, profitability, liquidity, bank size and bank growth have significant influence on earnings quality of listed deposit money banks in Nigeria after the adoption of IFRS, while the pre period shows that the selected banks' attributes has no significant impact on earnings quality. It is therefore concluded that the adoption of IFRS is right and timely.
19	Uwuigbe, U., Emeni,F. K., Uwuigbe, O.R., & Ataiwrehe , C.M.	2016	IFRS adoption and accounting quality: Evidence from the Nigerian Banking Sector	Empirical	Ordinary Least Square (OLS) regression analysis	The rate at which Nigerian banks engage in income smoothing increased in the post IFRS adoption period, while occurrences of such activities towards small positive earnings reduced thereby reducing the quality of accounting figures disclosed in the Financial Statements.
20	Eneje, Obidike,B .C. & Chukwuje kwu, P.	2016	The Effect of IFRS Adoption on the Mechanics of Loan Loss Provisioning For Nigerian Banks	Empirical	Ordinary Least Square (OLS) regression analysis	The limitation to recognize only incurred losses under IAS 39 significantly reduces income smoothing and delay recognition of future expected losses.
21	Onalo, U., Lizam, M., Kaseri, A. & Otache, I.	2014	The Effects of Changes in Accounting Standards on Loan Loss Provisions (LLP) As Earnings Management Device: Evidence from Malaysia and Nigeria Banks	Empirical	Discretionary Loan Loss Provisioning (LLP) Regression Model, Loan Loss Provisioning (LLP) Earnings Management Pattern Regression Model, Non Performing Loan (NPL) Regression Model, and the Credit Quality model	Malaysia and Nigeria banks use Loan Loss Provisioning to manage reported earnings more prior to IFRS implementation, even as the findings show that IFRS adoption is associated with lower earnings management via Loan Loss Provisioning (LLP).

Sources: Scholarly published literatures and Journal Articles

Table 2.6 Summary of Empirical Reviews continued

22	Bello, A., Abubakar, S. & Adeyemi, T.	2016	IFRS Adoption and Earnings Management in Nigerian Non-Financial Quoted Companies	Empirical	Discretionary accruals/modified Jones model	The interaction of IFRS*BIG4 audit firm does not significantly affect the tendency of Nigeria companies to manipulate their earnings.
23	Mehta, A. & Bhavani, G.	2017	Application of Forensic Tools to Detect Fraud: The Case of Toshiba	Empirical	Beneish Model, Altman Z-score model, and Benford's Law	The Beneish model, Altman Z-score model and the Benford's Law were extremely useful in detecting fraudulent financial statements published by Toshiba.
24	Aris, N.A., Othman, R., Arif, S.M.M., Abdul Malek, M.A. & Omar, N.	2013	Fraud Detection: Benford's Law vs Beneish Model	Extant review	Beneish Model and Benford's Law	The use of Benford's Law and Beneish model will allow users of accounting data assist Auditor and Investigators in finding anomalies which can be translated into fraud occurrences by the 95rganization.
25	Amiram, D., Rouen, E. & Bozanic, Z.	2015	Financial statement errors: Evidence from the distributional properties of Financial Statement numbers	Empirical	Benford's Law	
26	Zakari, M.	2017	International Financial Reporting Standard (IFRS) Adoption and Its Impact on Financial Reporting: Evidence from Listed Nigeria Oil and Gas Companies	Empirical	ROE, T-test	IFRS was more attractive and promising to long term lenders than the defunct Nigerian GAAP.

Sources: Scholarly published literatures and Journal Articles

Table 2.6 Summary of Empirical Reviews continued

27	Tota, I., Aliaj, A. & Lamçja, J.	2016	The Use of Benford's Law as a Tool for Detecting Fraud in Accounting Data	Empirical	Benford's Law	Benford's Law can help to detect cases where fictional numbers are involved or at least can be used as a signal to audit.
28	Aris, W.K.	2016	Application of Benford Law and Beneish M Score at PT Pertamina Indonesia	Empirical	Benford's Law and Beneish Modl	Benford's law and Beneish model's score were biased as tools in predicting the risk of bankruptcy within the company.
29	Das, R.C.	2017	Detection of Anomalies in Accounting Data Using Benford's Law: Evidence from India	Empirical	Benford's law	Benford's' law test is useful in the hands of Auditors to find out the data anomalies before auditing.
30	Pavtar, A. A.	2017	A Comparative Analysis of the Effect of IFRS Adoption on Value Relevance of Accounting Information in an Emerging Economy: A Focus on Listed Deposit Money Banks in Nigeria,	Empirical	Ordinary Least Square regression analysis	Value relevance of financial information of Pre and post IFRS adoption in Nigerian DMBs differed significantly
31	Afiangbe, E.S., Eromonsele, E.P. & Okoh, O.O.	2017	Accounting Standards and Disclosure Quality In Oil and Gas Sector	Empirical	Ordinary Least Square	full compliance with disclosures requirement of the various accounting standards recommended and issued for adoption in the oil and gas sector was found to improve the disclosure quality although at different levels of significance.

Sources: Scholarly published literatures and Journal Articles

2.5 GAP IN THE EMPIRICAL REVIEW

The table above clearly shows that prior studies related to this research paid more attention to the banking sector/financial institutions than the manufacturing sectors.

Evidences from these reviews shows that majority of these studies concentrated their research effort on the effect or impact of IFRS on Financial Statements' format presentation, loan loss provisioning, value relevance of firms, operating profit margin of companies, financial performances and financial position of companies with little effort made at ascertaining whether the adoption of IFRS has improved the integrity status of financial data disclosed by public companies. Only Umobong and Akani (2015), Adeyemi (2016) and Bello, Abubarkar and Adeyemi (2016), from the above reviews summary, looked into the earnings management status of manufacturing companies after their adoption of IFRS though their studies concentrated solely on Nigeria even as the regression analysis and the multiple regression analysis models were used for the investigations conducted, not the Benford's law and Beneish Predictive model.

Also worthy of note is the fact that extant review methodological approach, the survey method, non performing loan models, return on equity ratios, Ordinary Least Square regression models, Chi Square statistical tool, qualitative grading system, 21-items index measurement, multiple regression model, logistic model, Pearson correlation, and the paired sample T-test were mostly deployed by these studies in testing for the impact of IFRS on the quality of studied companies' Financial Statements.

Only three (3) literatures reviewed above made fair attempt at jointly applying the Beneish Model and the Benford's law in their studies with only two (2) empirical procedures observed out of the 3 studies. More importantly, none of the above literatures is a cross border study. This implies that cross border comparative studies on the quality of IFRS implementation and its impact on the integrity of disclosed Financial Statements of manufacturing companies in adopting countries, especially in West Africa, is quite uncommon.

CHAPTER THREE
METHODOLOGY

3.1 RESEARCH DESIGN

This research employed both the quantitative research method. As a result, non-experimental research designs such as the Causal-Comparative Research design otherwise called the Ex post facto research design was adopted for this study.

The choice of Ex post facto research design is derived from the desire of the study to closely examine the possible causes of government's movement of Nigeria's financial reporting practices in January 1st, 2012 from the Nigerian local GAAPs (Statement of Accounting Standards) to IFRS so as to determine whether any significant difference exist between the country's pre and post-IFRS financial reporting events while also bearing in mind the need to determine the extent to which this movement may or may not have affected the place of faithful representation or financial data integrity in both financial reporting regimes of listed manufacturing companies in the Nigerian Capital market.

Indeed, the need to gain useful information about a phenomena (*hereafter referred to as faithful representation quality or financial data integrity status*) in which little is known about at every phase of the transition in the financial reporting history of Nigeria is herein primed as the motivation behind the deployment of the Ex post facto research design.

However, it is believed that this phenomena is usually studied after the event of interest has occurred naturally (as in the pre and post IFRS financial reporting periods) or were already manipulated earlier during its occurrence seeing that no room exist in the ex-post facto research design for the alteration or manipulation of after-event data by users or researchers.

This unique point is considered one of the study's core reasons for the preferences of the ex post facto design to the near likely experimental research design such as the pre test-post test data design which permit data manipulation by the researcher where needful.

A casual comparative design or ex post facto research seeks to find the relationships between independent variables (IVs) and the dependent variable (DV). The independent variables in this study shall comprise financial data from selected pre-IFRS (control) and post-IFRS (experimental) financial reports of Nigerian selected public listed manufacturing companies while the dependent variable shall be used to represent the state of the companies' faithful representation or financial data integrity during the two reporting periods. This is considered very essential for the purpose of research questions one - six.

All these (DV and IVs) constitute the relevant ratios as the Beneish Predictive ratios and the Benford's law digits which make up the regression models that are specified for this research work (*unique emphasis on research questions one, two and three*) towards testing the statistical significance of the DV and gaining meaningful understanding of the extent to which the IVs predict, affect, or cause the prevalence of the DV.

Casual comparative design is also considered more credible when selection threats to validity are addressed, and different groups such as the selected public listed manufacturing companies in Nigeria being studied are homogeneous or the same on all variables or financial data items obtainable from their pre and post IFRS Financial Statements (same country has witnessed the implantation of the same but two different financial reporting guidelines- SAS and IFRS) except in the case of the phenomena (faithful representation or financial data integrity) which is the emphasis of this investigative study.

3.2 AREA OF THE STUDY

The research work covered all manufacturing sectors of the Nigerian Stock Exchange.

3.3 POPULATION

Considering the objectives and scope of the study, the population of the study covered all companies in the manufacturing sectors of the Nigeria Stock Exchange (NSE) market. Given below is a tabular presentation of the population of these companies by industrial sectors.

Table 3.2: Manufacturing Companies listed in NSE by Industrial sectors

S/N	Industrial Sector	Number of companies listed in NSE	% of Population
1	Agriculture	5	5.0
2	Conglomerate	6	6.2
3	Construction/Real Estate	7	7.2
4	Consumer Goods/ Services	26	26.8
5	Healthcare	10	10.4
6	Industrial Goods	17	17.6
7	Natural Resources	5	5.0
8	Oil & Gas	11	11.4
9	ICT	10	10.4
	Total	**97**	**100%**

SOURCE: NSE Fact Book 2016

A full tabular detail of all manufacturing companies comprising the population of the study in each of the nine industrial sectors outlined above is accessible in table 3.1 in Appendix D.

3.4 SAMPLE AND SAMPLING TECHNIQUES

Given the study's focal goal of carrying out meaningful comparative evaluation of the pre and post IFRS Financial Statements of public listed manufacturing companies in Nigeria towards substantiating whether the expected integrity as assumed in the IFRS reporting framework was secured in the country's post-IFRS financial data

disclosures in comparison to what was obtainable in the country's pre IFRS Financial Statements, sampling emphasis was judgmentally based only on all public listed manufacturing whose pre IFRS and post IFRS Financial Statements were available, accessible and complete in pages as originally published by the manufacturing companies so affected.

A total of fifty (50) manufacturing companies listed in the Nigerian Stock Exchange were thus sampled in that respect. As a result, the Financial Statements of companies in the Agriculture, Conglomerate, Consumer goods and Consumer services sector, Healthcare sector, Industrial goods sector, Natural resources sector, Construction sector, Oil & gas sector and the ICT sector were sampled and evaluated using the Benford's law and the Beneish Model (B & B Models).

Below in table 3.3 are the sampled manufacturing companies by their sectors: See table 3.4, Appendix E for a full tabular review.

Table 3.3: Sampled Manufacturing Companies in NSE

S/N	Industrial Sector	Number of companies listed in NSE	% of Sampled companies in NSE
1	Agriculture	4	8.0%
2	Conglomerate	3	6.0%
3	Construction/Real Estate	2	4.0%
4	Consumer Goods	14	28.0%
5	Healthcare	3	6.0%
6	Industrial Goods	10	20.0%
7	Natural Resources	3	6.0%
8	Oil & Gas	7	14.0%
9	ICT	4	8.0%
	Total	**50**	**100%**

SOURCE: NSE FactBook 2016

3.5 SELECTION OF RELEVANT FINANCIAL RATIOS AND MEASUREMENT

The bases for some of the analysis executed in this study are purely financial ratios. Earlier in chapter two, these financial ratios (eight of them in number) were reviewed literally to portray the eight sensitive variables were fitted together to form what is known as the Beneish predictive ratios. Given below are these financial ratios and the measurement deployed for their usage.

Table 3.6: Selected financial ratios and their measurement

S/N	Financial Ratios	Measurement
1	Days Receivable Index	(Net Receivablest / Salest) / Net Receivablest-1 / Salest-1)
2	Gross Margin Index	[(Salest-1 - COGSt-1) / Salest-1] / [(Salest - COGSt) / Salest]
3	Asset Quality Index	[1 - (Current Assetst + PP&Et + Securitiest) / Total Assetst] / [1 - ((Current Assetst-1 + PP&Et-1 + Securitiest-1) / Total Assetst-1)]
4	Sales Growth Index	Salest / Salest-1
5	Depreciation Index	(Depreciationt-1/ (PP&Et-1 + Depreciationt-1)) / (Depreciationt / (PP&Et + Depreciationt))
6	Selling, Gen. & Admin. Expense Index	(SG&A Expenset / Salest) / (SG&A Expenset-1 / Salest-1)
7	Leverage index	[(Current Liabilitiest + Total Long Term Debtt) / Total Assetst] / [(Current Liabilitiest-1 + Total Long Term Debtt-1) / Total Assetst-1]
8	Total Accruals to Total Assets	(Income from Continuing Operationst - Cash Flows from Operationst) / Total Assetst

SOURCE: Beneish (1999)

3.5.1 Model Specification

FDI = -4.84 + 0.92*DSRI + 0.528*GMI + 0.404*AQI + 0.892*SGI + 0.115*DEPI – 0.172*SGAI + 4.679*TATA – 0.327*LVGI

Model specification for Beneish (hypothesis two)

Separate regression for Pre IFRS Period

$$Y1 = \alpha + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + B_8X_8 + \mu$$

Separate regression for Post IFRS Period

$$Y2 = \alpha + B_1R_1 + B_2R_2 + B_3R_3 + B_4R_4 + B_5R_5 + B_6R_6 + B_7R_7 + B_8R_8 + \mu$$

Pooled regression for pre and post IFRS periods

$$Y3 = \alpha + B_1X_1 + B_1R_1 + B_2X_2 + B_2R_2 + B_3X_3 + B_3R_3 + B_4X_4 + B_4R_4 + B_5X_5 + B_5R_5 + B_6X_6 + B_6R_6 + B_7X_7 + B_7R_7 + B_8X_8 + B_8R_8 + \mu$$

Model specification for Benford's law digital analysis (hypothesis one and three)

Separate regression for Pre IFRS Period

$$D1 = \alpha + B_1T_1 + B_2T_2 + B_3T_3 + B_4T_4 + B_5T_5 + B_6T_6 + B_7T_7 + B_8T_8 + B_9T_9 + \mu$$

Separate regression for Post IFRS Period

$$D2 = \alpha + B_1S_1 + B_2S_2 + B_3S_3 + B_4S_4 + B_5S_5 + B_6S_6 + B_7S_7 + B_8S_8 + B_9S_9\ \mu$$

Pooled regression for Pre and Post IFRS Periods

$$D3 = \alpha + B_1T_1 + B_1S_1 + B_2T_2 + B_2S_2 + B_3T_3 + B_3S_3 + B_4T_4 + B_4S_4 + B_5T_5 + B_5S_5 + B_6T_6 + B_6S_6 + B_7T_7 + B_7S_7 + B_8T_8 + B_8S_8 + B_9T_9 + B_9S_9 + \mu$$

Where:

FDI = Financial Data Integrity

DSRI = Days' Sales in Receivables Index

GMI = Gross Margin Index

AQI = Asset Quality Index

SGI = Sales Growth Index

DEPI = Depreciation Index

SGAI = Sales, General and Administrative expenses Index

TATA = Total Accruals to Total Assets

LVGI = Leverage Index

α = Constant

μ = error term

Y = Financial Data Integrity Score

D =	=	Financial Data Digits Deviation Score
B_1 - B_8	=	Coefficients of the Independent Variables
X_1	=	pre IFRS DSRI
R_1	=	post IFRS DSRI
X_2	=	pre IFRS GMI
R_2	=	post IFRS GMI
X_3	=	pre IFRS AQI
R_3	=	post IFRS AQI
X_4	=	pre IFRS SGI
R_4	=	post IFRS SGI
X_5	=	pre IFRS DEPI
R_5	=	post IFRS DEPI
X_6	=	pre IFRS SGAI
R_6	=	post IFRS SGAI
X_7	=	pre IFRS LVGI
R_7	=	post IFRS LVGI
X_8	=	pre IFRS TATA
R_8	=	post IFRS TATA
T_1	=	pre IFRS Digit 1
T_2	=	pre IFRS Digit 2
T_3	=	pre IFRS Digit 3
T_4	=	pre IFRS Digit 4
T_5	=	pre IFRS Digit 5
T_6	=	pre IFRS Digit 6
T_7	=	pre IFRS Digit 7
T_8	=	pre IFRS Digit 8

T_9 = pre IFRS Digit 9

S_1 = post IFRS Digit 1

S_2 = post IFRS Digit 2

S_3 = post IFRS Digit 3

S_4 = post IFRS Digit 4

S_5 = post IFRS Digit 5

S_6 = post IFRS Digit 6

S_7 = post IFRS Digit 7

S_8 = post IFRS Digit 8

S_9 = post IFRS Digit 9

3.5.1.1 Model Decision Rule: *Beneish Variables*

DSRI > 1.465 = Possible inflation of revenue data, long stretching of credit collection period to boost more turnover so as to recognize revenue earlier enough in the current year's financial record even though cash for the said sales are recoverable the following year. (≤ 1.031 as no financial data falsification region).

GMI > 1.193 = Signifies that Gross margin of company is deteriorating and company is more likely to take to financial data alteration measures to maintain confidence in her shareholders and the investors (≤ 1.014 as no financial data falsification region).

AQI >1.254 = Tendencies of capitalizing and deferring costs that should have been expensed. (≤ 1.039 as no financial data falsification region)

SGI >1.607= firms under possible pressure to alter figures in her favour so as to keep up appearance in the competitive market (≤ 1.134 as no financial data falsification region).

TATA > 0.031 = Accruals possibly used to engage in financial data alteration. (≤0.018 as no financial data falsification region).

DEPI > 1 = Tendencies of Assets being depreciated at a slower rate of depreciation to boost earnings. Thus, company could be making changes in her accounting policies by embracing revenue friendly depreciation policies

SGAI $\underline{<}$ -1.0 = Company pushed into possible financial data manipulation to defer costs and expenses and consequently improve her profitability picture.

LVGI > 1 = Reflecting pictures of Increase in leverage. An increase in the indicator subjects a firm to a greater risk of violating debt covenants and engages in creative accounting activities in other to avoid a breech.

i. *Digit 1 observed frequency > 0.30103 = questionable digit deviation of disclosed data.*
ii. *Digit 2 observed frequency > 0.17609 = questionable digit deviation of disclosed data.*
iii. *Digit 3 observed frequency > 0.12494= questionable digit deviation of disclosed data.*
iv. *Digit 4 observed frequency > 0.09691= questionable digit deviation of disclosed data.*
v. *Digit 5 observed frequency > 0.07918= questionable digit deviation of disclosed data.*
vi. *Digit 6 observed frequency > 0.06695= questionable digit deviation of disclosed data.*
vii. *Digit 7 observed frequency > 0.05799= questionable digit deviation of disclosed data.*
viii. *Digit 8 observed frequency > 0.05115= questionable digit deviation of disclosed data.*
ix. *Digit 9 observed frequency > 0.04576= questionable digit deviation of disclosed data.*

3.5.1.2 Model Decision

FDI < -2.22 = Questionable Integrity level of financial data maintained.

FDI > -2.22 Benchmark = Reasonable Integrity level of financial data maintained.

3.5.2 Chow Test

Being a statistical and econometric test, the Chow Test was proposed in 1960 by Gregory Chow to test whether the coefficients of two linear regression on different data sets are equal. The formula below applies for the effective execution of the test:

$$\text{CHOW} = \frac{(RSS_p - (RSS_1 + RSS_2)) / k}{(RSS_1 + RSS_2) / (N_1 + N_2 - 2k)}$$

Where:

RSS_p = pooled regression sum of squared residuals

RSS_1 and RSS_2 = the sum of squared residuals for individual models

N_1 and N_2 = number of observations

K = number of parameters

The following hypothesis usually apply for the test:

H_o: No break point exists (in other words, that the data set can be represented with a single regression line).

H_1: There exist break point (in other words, that the data set cannot be represented with a single regression line).

The decision is to:

- ✓ Reject null hypothesis if *calculated F-value* is greater **(**>) than the *F-critical value* obtained from the F distribution table under 5% significance level.
- ✓ Reject alternate hypothesis if *calculated F-value* is less (<) than the *F-critical* value obtained from the F-distribution table under 5% significance level.

3.6 SOURCES OF DATA

Published Annual Reports and Audited Accounts for the years 2006 - 2016 served as sources of data for this study. The Pre -IFRS financial data of selected manufacturing companies were however drawn from her 2007 – 2011 (5 years before IFRS adoption with 2006 financial year serving as comparative date to 2007 reporting date) while the post IFRS Financial Statements were drawn 2012 – 2016 (5 years from the year the country adopted IFRS guidelines.

Other secondary sources such as published academic Journals, published text books, published Articles, Web reports and the Internet were utilised for the purpose of all literatures reviewed in this research work.

Certain percentage of the Annual reports and Audited Accounts used in this study were downloaded directly from some sampled companies' official websites and through the Google scholar, Proshare, Nairametrics, and Issu. A bulk of the missing financial years report were obtained at the libraries of the Nigerian Stock Exchange with Onitsha (Anambra State) making greater contribution in this regards.

However, the physical read-mode data extraction method was used for the collection of relevant raw data from the affected Financial Statements. This was enabled by the design of a datasheet in tabular form (See specimen in Appendix A). The datasheet contained various Financial Statements items that constitute each of the financial ratios' variables that made up the Benford's Law and Beneish Predictive models (B & B models).

3.7 TECHNIQUES FOR STATISTICAL ANALYSIS

Considering the six (6) hypotheses formulated for this study, the Independent Samples Mann Whitney U Test, Multiple Regression analysis, Chow Test, Kolmogorov–Smirnov and Shapiro–Wilks test statistical tools were all deployed for the effective test of the relevant hypotheses in the study.

All raw financial data collated were first subjected to the B &B (Benford' law and Beneish Predictive ratios) models analyses for initial result extract, which were later tested with the aid of these statistical tools stated above.

The *Kolmogorov–Smirnov* and *Shapiro–Wilks* tests tested for normality status of data employed for test of relevant hypotheses in the study. This enabled the study reach unbiased decision on the most suitable statistical tools (parametric or non parametric tools) employed in the study for the test of the seven hypotheses earlier formulated.

Hypothesis one was tested using the Independent Samples Mann Whitney U test. The Chi square statistical tool was used to test hypotheses two.

The Multiple Regression analytical tool was applied on hypotheses one, two, and three, even as hypotheses four, five, and six were tested with the aid of Mann Whitney U Test statistical tool.

The Chow Test tested for the separate regression lines or pooled regression line status of two separate (pre and post IFRS) regression models testing hypotheses two and three.

The Scientific Package for Social Sciences (SPSS) version 24, Excel customised software for Beneish model, and Miller & Nigrini Excel customized software for Benford's law (first digit) were all used to execute relevant analyses carried out in this study

3.7.2 Justification for Selection of Analytical Tools

Reasons for the choice of the different analytical tools used in this research work have been limited to popularity, professional acceptability/recommendation, interpretative reliability of result, and ease of applicability. Given below is however some specific reasons relative to the hypotheses considered in the study:

Like any other forensic tool, the B & B models earmarked for application in this study have their limitations. Although the Benford's Law only identify's digits inappropriateness, gives reliable indication of the probability of unfaithfully represented financial data digit but cannot give its exact location, the Beneish model readily points to possible areas in the companies' Financial Statements that may have been unfaithfully represented upward in favour of the companies involved.

The above distinct weaknesses of these two remarkable models readily complements each other as solutions thus the more reason for their joint application in this study.

Bearing in mind the focal point of hypothesis one- to determine whether Benford's Law is significantly effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies, the Benford's Law indicators were subjected to the Multiple Regression statistical tool towards understanding the contributive ability of the model's individual digits variables to explaining any tendencies of financial data anomalies and digit deviations that do not follow the Benford's Law digit frequency distribution.

Seeing that hypotheses two and three emphasize on whether the Beneish predictive ratios (comprising 8 variables) and the Benford's Law (comprising 9 digits) are significant in assessing and signaling tendencies of unfaithful representation of financial data disclosures of pre and post IFRS Financial Statements of selected public

manufacturing companies in Nigeria, the Multiple Regression analysis technique was considered fit to achieving the above purpose.

This is because, the Multiple Regression possess the qualities that allow for two or more categorical independent variables to be assessed towards ascertaining the extent of predictive contribution each make in explaining the dependent variable (faithful representation/financial data integrity) in order to appreciate the magnitude of their relevance or irrelevance when looking into issues of faithful data representation in organizational financial stewardship.

Moreso, the adoption of the Multiple Regression analytical technique for the testing of hypothesis two and three is based on the ability of the statistical tool to effectively combine the Benford;s law and Beneish ratios result of the pre IFRS and post IFRS periods which constitute the Independent Variables (IVs) towards predicting the tendencies of unfaithful representation herein depicted as the dependent variable (DV).

We adopted the Mann Whitney U test statistical tool to test hypotheses four, five, and six to enable the study to determine comparatively whether any significant difference exist in the Beneish Predictive Ratios analysis outcome and the indicators of the Benford's Law evaluation towards understanding whether any significant difference really exists between the financial reporting characters of the two different financial reporting regimes- faithful representational wise.

The choice of Mann Whitney U Test in the test of these three hypotheses (four, five, and six) is equally based on the capability of the statistical tool to satisfy the expectations of the said hypotheses. This statistical technique is suitable when testing for possible significant differences between two independent groups (pre IFRS financial reporting practices and post IFRS financial reporting practices) on a continuous measure herein depicted as the same reporting jurisdiction, Nigeria. In this case, the mean scores are compared.

The scores are usually converted to ranks across these two different groups and consequently evaluated to see if the ranks differ significantly. In this case, one

categorical variable (same reporting jurisdiction as Nigeria) across two different groups (pre IFRS and post IFRS financial data) is usually required.

The Chow Test was deployed to help ascertain if two separate regression lines/models as obtainable in hypotheses two and three for pre IFRS and post IFRS financial data disclosures, can be represented as one single pooled regression line/model for onerous decision making purpose.

The application of *Kolmogorov–Smirnov* and *Shapiro–Wilks* test.in the study is to test for normality status of the data employed for the purpose of hypotheses four, five, and six testing. This is to help determine the type of statistical tools (parametric or non parametric statistical tools) fit for the affected hypotheses analysis.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 DATA PRESENTATION

Relevant Data for the Beneish model and the Benford's Law specified models application purpose, were carefully extracted from the Financial Statements of selected manufacturing companies in the Nigeria Stock Exchange (NSE) for the years 2006 – 2016. See Appendix B, F, G and H for full details of extracted data.

4.1.1 Active and Inactive Samples

It is worthy to note that financial data for the fifty (50) public listed manufacturing companies sampled in this work accessed and evaluated as relevant financial data items (for the purpose of the application of the Benford's Law and the Beneish model) were extracted using the sheet customized for effective data extract. Thus, the Financial Statements of the 50 manufacturing companies for the years 2007 – 2016 were actively used to prosecute the study. Below is a tabular summary:

Table 4.1: Summary of the Sample size

S/N	No. of Sampled Companies	Total	Active Samples	Total	Inactive Samples	Total
1	*Nigeria*	50	*Nigeria*	50	*Nigeria*	-
Total		**50**	***Total***	***50***	***Total***	**-**

SOURCE: Field Survey, 2017.

Accordingly, the size of the fifty (50) manufacturing companies as in table 3.3 of chapter three (also see table 3.4, Appendix E for complete details) for the effective evaluation and assessment of the status of selected companies' disclosed financial data integrity.

4.2 DATA ANALYSIS

4.2.1 Test of Normality Distribution

Knowing that it is important that the normality distribution status of any data be first determined for the purpose ascertaining the type of analytical technique to adopt for

data analyses, the following test was conducted: This was carried out in two (2) phases:

The first test of normality distribution was carried out on Benford's law analyses outcome of pre IFRS and post IFRS financial data of selected manufacturing companies which were due for further analyses using statistical tool(s).

The second phases of the test of normality distribution was carried out on Beneish model's analysis outcome of pre-IFRS and post-IFRS financial data of selected manufacturing companies covered in this study.

Using Kolmogorov-Smirnova and Shapiro-Wilk statistical tool for executing the test of normal distribution, the following findings and basis for the choice of statistical tools selected for all extensive data analyses carried out in this study are given below:

4.2.1.1 First Test of normality distribution

The following hypothesis guided this test:

H_0: The population is normally distributed.

H_1: The population is not normally distributed.

Table 4.2: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
MSCORE Pre IFRS	.476	50	.000	.254	50	.000
MSCORE post IFRS	.473	50	.000	.246	50	.000

a. Lilliefors Significance Correction

Source: SPSS Ver. 24

Decision Rule: If the p-value is less than the chosen alpha level (0.05), then the null hypothesis is rejected and thus, means that the data is not from a normally distributed population. On the contrary, if the p-value is greater than the chosen alpha level (0.05), then the alternate hypothesis that the data is not from a normally distributed population is rejected.

The result of the above test of normality showed that p-values for pre IFRS financial reporting period and post IFRS financial reporting period, for both the Kolmogorov-Smirnov and Shapiro-Wilk Test (0.000) were less than 0.05 ($p < .05$). This which provides evidence of non-normality. Thus, relevant hypotheses affected, foe example,

hypothesis two, hypothesis four and hypothesis five were therefore evaluated using the *Multiple Regression Analytical tool* (suitable for parametric and non-parametric situations) *and Mann–Whitney U test*, a nonparametric statistical tool.

4.2.1.2 Second Test of normality distribution

The following hypothesis also guided this test:

H_0: The population is normally distributed.

H_1: The population is not normally distributed.

Table 4.2.2: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre IFRS	.444	50	.000	.305	50	.000
Post IFRS	.425	50	.000	.292	50	.000

a. Lilliefors Significance Correction
Source: SPSS Ver. 24

Decision Rule: If the p-value is less than the chosen alpha level (0.05), then the null hypothesis is rejected and thus, means that the data is not from a normally distributed population. On the contrary, if the p-value is greater than the chosen alpha level (0.05), then the alternate hypothesis that the data is not from a normally distributed population is accepted.

The outcome of the above tests of normality also showed that the p-values for pre IFRS digit deviations and post IFRS digit deviations, for both the Kolmogorov-Smirnov and Shapiro-Wilk Test (0.000) were less than 0.05 ($p < .05$). This provides evidence of non-normality.

The hypotheses affected, for example, hypothesis one, hypothesis one, hypothesis three, and hypothesis five was therefore evaluated using the Multiple Regression technique and Mann–Whitney U test, a nonparametric test of the null hypothesis. This is equally likely that a randomly selected value from one sample will be less than or greater than a randomly selected value from a second sample, and does not require the assumption of normal distributions.

4.2.2 Test of Hypothesis One

Using the Multiple Regression analytical technique, digit deviations of the post-IFRS Financial Statements of the selected Nigerian manufacturing companies studied were duly employed in testing hypothesis one.

H_1: Benford's Law is significantly effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies.

Given below is outcome of the Multiple Regression analysis carried out:

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.768[a]	.590	.510	8.450448	2.200

a. Predictors: (Constant), Digit 9 (t9), Digit 2 (t2), Digit 3 (t3), Digit 7 (t7), Digit 8 (t8), Digit 4 (t4), Digit 6 (t6), Digit 5 (t5), Digit 1 (2)
b. Dependent Variable: UNFAITH. REPRESENT

Table 4.4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4207.772	8	525.971	7.366	.000[b]
	Residual	2927.813	41	71.410		
	Total	7135.585	49			

a. Dependent Variable: UNFAITH. REPRESENT
b. Predictors: (Constant), Digit 9 (t9), Digit 2 (t2), Digit 3 (t3), Digit 7 (t7), Digit 8 (t8), Digit 4 (t4), Digit 6 (t6), Digit 5 (t5)

Result from table 4.3- Model summary shows that the R^2 which measured the overall goodness fit of the regression model in view of post IFRS financial disclosures assessed recorded .590 (adjusted R^2 were .513) signifying that the model is fit for use in testing hypothesis one. The outcome of table 4.4- ANOVA table equally shows that the equation for the test carried out is statistically significant (p-value of .000 is less than 0.05).

Moreso, F-calculated from ANOVA table 4.4 is 7.366 while the outcome from the F-table (41 under 8 in the F Distribution table at 0.05 level of significance) is 2.10.

4.2.3 Test of Hypothesis Two

Using the Multiple Regression statistical tool, the hypothesis is evaluated by combining Beneish ratios' values from the Pre IFRS and Post IFRS financial reporting periods in order to form a composite equation which could be applicable in the two financial reporting regimes.

H_1: Beneish Model is significant in assessing the faithful representation of financial data disclosures of pre and post IFRS Financial Statements of selected public manufacturing companies in Nigeria.

Shown below is the result of the analysis carried out:

Table 4.6: Model Summary for Pre IFRS Period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848[a]	.719	.664	200.41836580000000

a. Predictors: (Constant), TATA (X8), AQI (X3), DSRI (X1), SGI(X4), DEPI (X5), SGAI(X6), LVGI (X7), GMI (X2)

Table 4.7: ANOVA for Pre IFRS Period

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4209360.327	8	526170.041	13.099	.000[b]
	Residual	1646868.375	41	40167.521		
	Total	5856228.702	49			

a. Dependent Variable: MSCORE- DV

b. Predictors: (Constant), TATA (X8), AQI (X3), DSRI (X1), SGI(X4), DEPI (X5), SGAI(X6), LVGI (X7), GMI (X2)

Table 4.8: Coefficients of Pre IFRS Period

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	207.062	155.902		1.328	.191
	DSRI (X1)	.801	.398	.177	2.012	.051
	GMI (X2)	-82.647	28.557	-.300	-2.894	.006
	AQI (X3)	.199	.034	.599	5.915	.000
	SGI(X4)	-12.881	67.461	-.017	-.191	.850
	DEPI (X5)	-75.233	69.592	-.102	-1.081	.286
	SGAI(X6)	33.837	31.580	.098	1.071	.290
	LVGI (X7)	-24.050	53.650	-.043	-.448	.656
	TATA (X8)	-80.528	199.872	-.034	-.403	.689

a. Dependent Variable: MSCORE- DV

Table 4.9: Model Summary of Post IFRS Period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.986[a]	.972	.954	.32112250800000

a. Predictors: (Constant), TATA (X8), DEPI (X5), GMI (X2), AQI (X3), SGI(X4), SGAI(X6), LVGI (X7), DSRI (X1)

Table 4.10: ANOVA for Post IFRS Period

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72710.935	8	9088.867	77.890	.000[b]
	Residual	4784.228	41	116.688		
	Total	77495.163	49			

a. Dependent Variable: MSCORE- DV
b. Predictors: (Constant), TATA (X8), DEPI (X5), GMI (X2), AQI (X3), SGI(X4), SGAI(X6), LVGI (X7), DSRI (X1)

Table 4.11: Coefficients of Post IFRS Period

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.586	.196		-23.393	.000
	DSRI (X1)	.953	.048	.026	19.889	.000
	GMI (X2)	.538	.030	.022	17.919	.000
	AQI (X3)	.404	.001	.884	734.191	.000
	SGI(X4)	.890	.002	.501	413.860	.000
	DEPI (X5)	.111	.025	.005	4.390	.000
	SGAI(X6)	.218	.047	.006	4.628	.000
	LVGI (X7)	.558	.166	.004	3.354	.002
	TATA (X8)	1.332	.298	.006	4.466	.000

a. Dependent Variable: MSCORE- DV

Results from tables 4.6 and 4.9- Model summaries for Pre IFRS and post IFRS financial data disclosures show that the R^2 which measured the overall goodness fit of the regression model for both financial reporting regimes recorded values of .719 and .972 (adjusted R^2 were .664 and .954 for both periods) signifying that the models are fit for use in testing hypothesis two. Outcome of their relevant ANOVA table equally shows that the equations for both financial reporting regimes are statistically significant (p-value of .000 in both financial reporting periods is less than 0.05).

Imdicators of tables 4.8 and 4.11- Coefficients of Pre IFRS Period and Post IFRS Period attest to the fact that while the Asset Quality Index (AQI), Gross Margin index (GMI) and Days Sales Receivable Index (DSRI) made statistical contributions in predicting the dependent variable in the Pre IFRS period (.000, 0.006, and 0.05 less or equal to 0.05), all Beneish 8 Predictive ratios made statistical contribution in the post IFRS period at explaining and predicting the dependent variable, unfaithful representation in the equation.

Pooled result for Pre IFRS and Post IFRS financial data disclosures is given below:

4.12: Model Summary for Pre and Post IFRS Periods

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819[a]	.672	.643	147.74843940000000

a. Predictors: (Constant), TATA (X8), AQI (X3), DSRI (X1), SGI(X4), DEPI (X5), SGAI(X6), LVGI (X7), GMI (X2)

Table 4.13: ANOVA of Pre and Post IFRS Periods

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4061643.121	8	507705.390	23.258	.000[b]
	Residual	1986493.721	91	21829.601		
	Total	6048136.842	99			

a. Dependent Variable: MSCORE- DV
b. Predictors: (Constant), TATA (X8), AQI (X3), DSRI (X1), SGI(X4), DEPI (X5), SGAI(X6), LVGI (X7), GMI (X2)

Table 4.14: Coefficients of Pre IFRS and Post IFRS Periods

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.689	44.831		.595	.553
	DSRI (X1)	.875	.284	.191	3.084	.003
	GMI (X2)	-24.1	11.127	-.142	-2.187	.031
	AQI (X3)	.242	.021	.731	11.408	.000
	SGI(X4)	.602	.979	.037	.615	.540
	DEPI (X5)	-2.346	10.950	-.013	-.214	.831
	SGAI(X6)	10.159	14.732	.043	.690	.492
	LVGI (X7)	-12.095	32.283	-.024	-.375	.709
	TATA (X8)	-45.836	98.012	-.028	-.468	.641

a. Dependent Variable: MSCORE- DV

Pooled results from tables 4.12 and 4.13- pooled Model summary of pre IFRS and post IFRS periods as a single linear regression show that the R^2 .recorded values of .672 (adjusted R^2 was .643) attesting to the fitness of the model for use in this study. Outcome of their relevant ANOVA table equally shows that the equations in both financial reporting periods are statistically significant (p-value of .000 in both countries is less than 0.05).

Table 4.14 equally shows that Asset Quality Index, Day's Sales Receivable Index, and Gross Margin Index with .000, .003, and .031 wihich are less than 0.05 made the most statistical contribution at explaining or predicting the dependent variable (unfaithful representation) in the pooled equation.

However, a Chow test was further conducted to help substantiate if the two separate linear regressions for pre IFRS financial data disclosures and post IFRS financial data disclosures can truly be represented as one single linear regression as depicted above

seeing that the result in the pooled regression model is statistically significant (p-value which is .000 is less than 0.05).

Using the formular below, the result of the Chow test is given as:

$$\frac{(RSS_p - (RSS_1 + RSS_2)) / k}{(RSS_1 + RSS_2) / (N_1 + N_2 - 2k)}$$

F-critical value = 2.128

Looking up 91 under 8 in the F-table distribution (5% significance level), the outcome reveals that the F-table value obtained is 2.02. Thus, when *F-critical value* (2.128) is greater than the *F-table value* (2.02), the null hypothesis which states that "there is no break point (different data set can be represented as one single linear regression)" is rejected and the alternate hypothesis accepted.

4.2.4 Test of Hypothesis Three

Using the Multiple Regression statistical tool, hypothesis three was tested by obtaining the digit deviations which is the differene between Benford's law expected digit frequency distribution and the observed digit frequencies towards combining such outcomes obtained from the evaluation of the Pre IFRS and the Post IFRS financial data disclosures in order to form a composite equation that ia applicable in both financial reporting situation.

H_1: Digit deviation from Benford's Law signals tendencies of unfaithful representation of financial data disclosures in the pre and post IFRS financial reports of selected Nigerian manufacturing companies

The results are shown below:

Table 4.15: Model Summary for Pre IFRS Period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891[a]	.794	.640	7.390852

a. Predictors: (Constant), Digit 9 (t9), Digit 7 (t7), Digit 2 (t2), Digit 1 (t1), Digit 6 (t6), Digit 3 (t3), Digit 5 (t5), Digit 8 (t8), Digit 4 (t4)

Table 4.16: ANOVA[a] for Pre IFRS Period

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2526.907	8	315.863	5.140	.005[b]
	Residual	655.496	41	15.987		
	Total	3182.403	49			

a. Dependent Variable: Financial Data Digit Deviation Score (FDDDS)
b. Predictors: (Constant), Digit 9 (t9), Digit 7 (t7), Digit 2 (t2), Digit 1 (t1), Digit 6 (t6), Digit 3 (t3), Digit 5 (t5), Digit 8 (t8), Digit 4 (t4)

Table 4.18: Model Summary for Post IFRS Period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760[a]	.577	.260	5.902399

a. Predictors: (Constant), Digit 9 (s9), Digit 4 (s4), Digit 3 (s3), Digit 1 (s1), Digit 2 (s2), Digit 7 (s7), Digit 6 (s6), Digit 8 (s8), Digit 5 (s5)

Table 4.19: ANOVA[a] for Post IFRS Period

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	570.786	8	71.348	4.820	.016[b]
	Residual	418.060	41	10.1965		
	Total	988.845	49			

a. Dependent Variable: Financial Data Digit Deviation Score (FDDDS)
b. Predictors: (Constant), Digit 9 (g9), Digit 4 (g4), Digit 3 (g3), Digit 1 (g1), Digit 2 (g2), Digit 7 (g7), Digit 6 (g6), Digit 8 (g8), Digit 5 (g5)

Results from tables 4.15 and 4.18- Model summaries for Pre IFRS and Pre IFRS periods show that the R^2 which measured the overall goodness fit of the regression model for both financial reporting regimes, recorded values of .794 and .577. Outcome of both periods relevant ANOVA tables equally show that the equations in both situation are statistically significant (p-value of .005 and 0.016 in Pre IFRS and Post IFRS periods are less than 0.05).

Pooled result for Pre IFRS and Post IFRS financial reporting period is given below:

Table 4.21: Model Summary for Pre and Post IFRS Period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.735[a]	.540	.419	7.597946

a. Predictors: (Constant), Digit 9 (t9,g9), Digit 6 (t6,g6), Digit 7 (t7,g7), Digit 5 (t5,g5), Digit 8 (t8,g8), Digit 3 (t3,g3), Digit 4 (t4,g4), Digit 2 (t2,g2), Digit 1 (t1,g1)

Table 4.22: ANOVA[a] for Pre IFRS and Post IFRS Periods

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2308.261	8	288.532	4.443	.001[b]
	Residual	1962.778	91	21.563		
	Total	4271.039	99			

a. Dependent Variable: Financial Data Digit Deviation Score (FDDDS)
b. Predictors: (Constant), Digit 9 (t9,g9), Digit 6 (t6,g6), Digit 7 (t7,g7), Digit 5 (t5,g5), Digit 8 (t8,g8), Digit 3 (t3,g3), Digit 4 (t4,g4), Digit 2 (t2,g2), Digit 1 (t1,g1)

Pooled results from tables 4.21 and 4.22- pooled Model summary of Pre IFRS period and the Post IFRS period as a single linear regression show that the R^2 .recorded values of .540. Outcome of their relevant ANOVA table equally shows that the equations in both country situations are statistically significant (p-value of .001 in both countries is less than 0.05).

However, a Chow test was further conducted to help substantiate if the two separate linear regressions for Pre IFRS period and the Post IFRS period can truly be represented as one single linear regression as depicted above seeing that the result in the pooled regression model is statistically significant (p-value which is .001 is less than 0.05).

Using the formular below, the result of the Chow test is given will be:

$$\frac{(RSS_p - (RSS_1 + RSS_2)) / k}{(RSS_1 + RSS_2) / (N_1 + N_2 - 2k)}$$

F-critical value = 215.356926

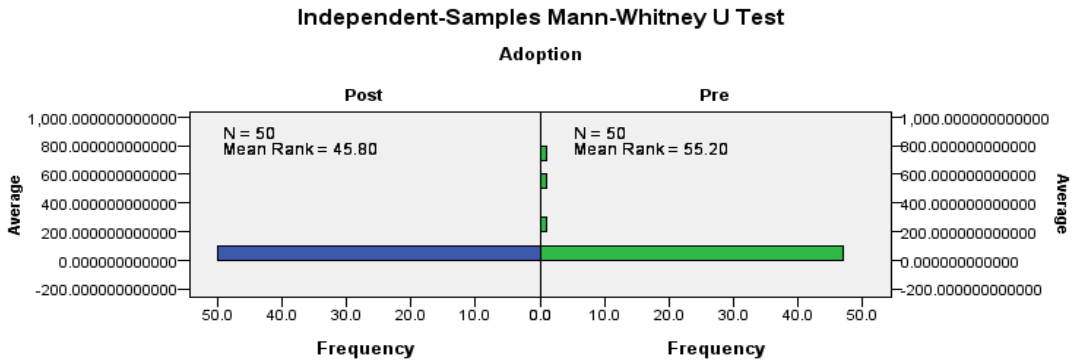
Looking up 91 under 8 in the F-table distribution (5% significance level), the outcome reveals that the *F-table value* obtained is 2.02. Thus, when *F-critical value* is greater than the *F-table value*, the null hypothesis which states that "there is no break point (different data set can be represented as one single linear regression)" is rejected and the alternate hypothesis accepted. Given the above result (215.35 > 2.02), we conclude that both separate models for the Pre IFRS period and the Post IFRS period cannot be represented as one single linear regression model, thus due consideration being given to them separately for the purpose of this hypothesis

4.2.5 Test of Hypothesis Four

Using the Mann Whitney U Test statistical tool, the hypothesis evaluated the Pre IFRS and Post IFRS financial data disclosures' indicators of the 8 Bemeish Predictive ratios towards understanding whether such ratios outcome differed significantly across the two reporting regime.

H_1: Ratios outcome of the test of financial data faithful representation using the Beneish Predictive model differ significantly in the pre and post IFRS financial reporting regimes of selected public listed manufacturing companies in Nigeria

Below is the result obtained from the analysis carried out:



Total N	100
Mann-Whitney U	1,015.000
Wilcoxon W	2,290.000
Test Statistic	1,015.000
Standard Error	145.057
Standardized Test Statistic	-1.620
Asymptotic Sig. (2-sided test)	.105

Figure 4.1: Mann Whitney U test outcome to hypothesis four

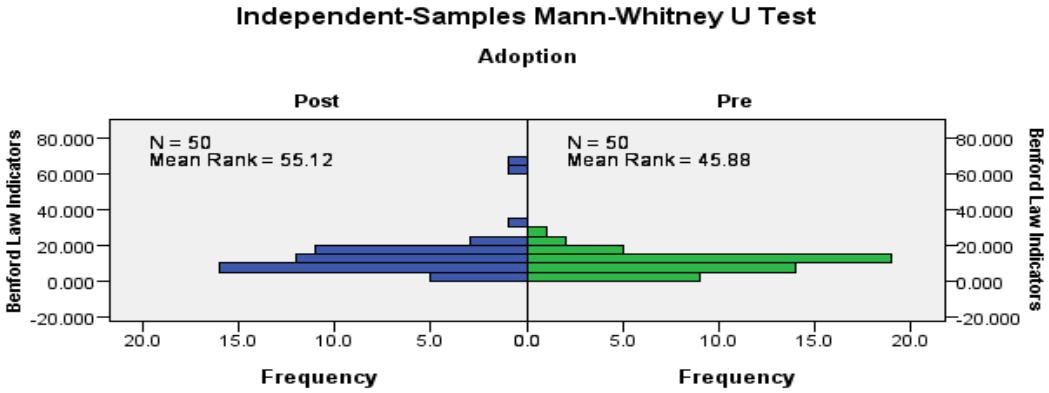
The above chart and figure to hypothesis four clearly shows that the probability value (.105) is greater than 0.05 ($p>0.05$) indicating a state of significant difference. Moreso, the Mean Rank to both financial reporting regime differed. While the Pre IFRS indicators ranked 55.20, the Post IFRS Mean Rank stood at 45.80.

4.2.6 Test of Hypothesis Five

Using the Mann Whitney U Test statistical tool, the hypothesis comparatively evaluated the Implications of the Benford's law digital analyses of the pre and post IFRS financial reporting practices of selected Nigerian manufacturing companies

H_1: Implications of the Benford's law digital analyses of the pre and post IFRS financial reporting practices of selected Nigerian manufacturing companies differ significantly.

Below is the outcome of the relevant analysis carried out:



Total N	100
Mann-Whitney U	1,481.000
Wilcoxon W	2,756.000
Test Statistic	1,481.000
Standard Error	145.057
Standardized Test Statistic	1.592
Asymptotic Sig. (2-sided test)	.111

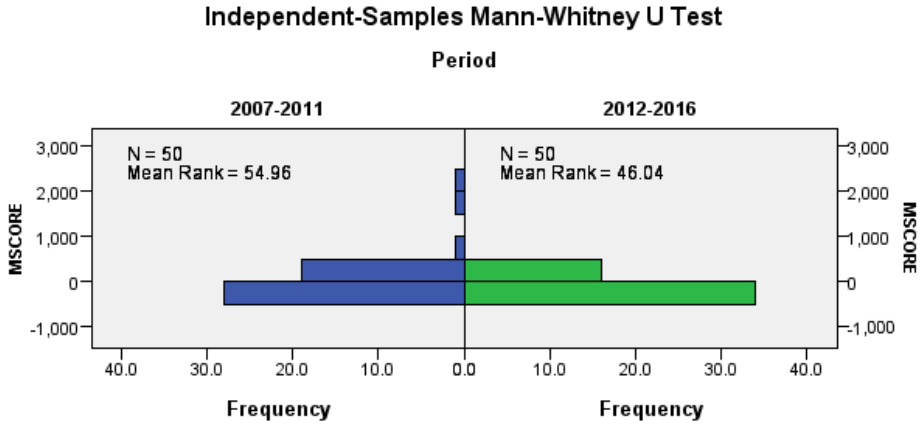
Figure 4.2: Mann Whitney U test outcome to hypothesis five

The above chart and figure 4.2 to hypothesis five clearly shows that the probability value (p-value) = .111 is greater than 0.05. Besides, the Mean Rank for both reporting regimes does not differ significantly. Analysis Mean outcome from the Pre IFRS financial reporting regimes ranked 45.88 while that of the Post IFRS regime ranked 55.12.

4.2.7 Test of Hypothesis Six

The Mann Whitney U Test statistical tool was also used to test hypothesis seven towards understanding whether the outcome (integrity scores) of Beneish model analysis executed on the financial data of pre-IFRS and post-IFRS Financial Statements of selected Nigerian manufacturing companies differed.

Below is a detailed outcome of the extensive analysis executed using Mann Whitney U Test statistical tool:



Total N	100
Mann-Whitney U	1,027.000
Wilcoxon W	2,302.000
Test Statistic	1,027.000
Standard Error	145.057
Standardized Test Statistic	-1.537
Asymptotic Sig. (2-sided test)	.124

Figure 4.3: Mann Whitney U test result to hypothesis six

Screening through chart and figure 4.4, evidence shows that the probability value (p-value) = .124 is greater than 0.05. Besides, the Mean Rank for both periods does not differ significantly. The Mean score of Nigeria's post-IFRS financial reporting practices (2012 – 2016) ranked 46.04 while those of her pre-IFRS financial reporting periods (2007 – 2011) ranked 54.96.

4.3 DISCUSSION OF ANALYSES RESULTS

This section makes extensive effort at interpreting and discussing the relevant findings made by this study which is based on relevant analyses earlier carried out in section 4.2.

4.3.1 Benford's Law is significantly effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies.

In view of the fifty (50) manufacturing companies whose financial data were extracted and subjected to the Benford's law digital analysis, the outcome of the Multiple Regression extensive analysis carried out showed that the analysis result is statistically significant ($p = .000 < 0.05$).

Further look at the ANOVA table (table 4.4) revealed that the F-critical value (7.366) is greater than the F-table value of 2.10 as obtained.

Adopting the decision scenario- *accept null hypothesis if F-table value is greater than F-critical value, otherwise reject and accept the alternate hypothesis*. Since the F-critical value is greater, we therefore reject the null hypothesis implying that Benford's Law is significantly effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies.

This was further substantiated from table 4.23 which summarized Benford's law Post-IFRS financial data analysis output. Indicators obtainable equally showed that out of *450 observations* made by Benford's law from the five years Financial Statements of fifty (50) selected manufacturing companies in Nigeria, *a total of 217 tendencies* of *"questionable digit integrity"* of disclosed first digits to financial data were observed while 233 situation of *"reasonable digit integrity"* were confirmed by the law to have followed the Benford's Law frequency distribution for first digits.

Tota et al (2016), while applying the law also made similar observation that Benford's Law has the capacity to help users detect cases of fictional numbers.

Supportive results from table 4.23 (see Appendix F) equally attest to this. Indicators obtained showing that among the 50 studied manufacturing companies in Nigeria, except for digits 7 and 9 with 20 observed tendencies of questionable digit integrity each, digits 3, 8, 1, and 5 all recorded higher tendencies of questionable digit integrity (a total of 31, 27, 25, and 25 observations).

4.3.2 Beneish Model is significant in assessing the faithful representation of financial data disclosures of Pre and Post IFRS Financial Statements of selected public manufacturing companies in Nigeria.

Outcomes of tables 4.6 and 4.9 *(individual Model summaries of Pre IFRS Period and Post IFRS Period* showed that the R^2 which measures the overall goodness fit of the regression model for both financial reporting regimes recorded values of .719 and .972 (adjusted R^2 were .664 and .954 for both regimes).

This implies that the independent variables (Day's Sales Receivable Index, Gross Margin Index, Asset Quality Index, Sales Growth Index, Depreciation Index, Selling, General and Administrative Expenses Index, Leverage Index, Total Accruals to Total Asset Index) in the model explained 66.4% and 95.4% variations in the dependent variable (Financial data integrity/faithful representation). A look at both financial reporting regimes' respective ANOVA tables (tables 4.7 and 4.10) clearly depicts that the models are statistically significant ($p = 0.000 < 0.005$).

The Pooled results from tables 4.12 and 4.13- *pooled Model summary of Pre IFRS and Post IFRS* as a single linear regression equally showed that the R^2 stood at .672 (adjusted R^2 was .643). The pooled ANOVA table also shows that both equations as a single linear regression are statistically significant (p-value = .000 is less than 0.05).

This shows that placing absolute reliance on the outcome of the individual and pooled regression models for use is statistically okay. However, a careful look at the outcome of the Chow test conducted readily leaves us with a different view regarding the fitness of the individual linear regression models of the Pre IFRS and Post IFRS financial reporting regimes being represented as a single linear regression model.

It could be recalled that Chow Test is used to measure the fitness of two different linear equation being represented as one/pooled linear equation. With Chow test recording a calculated *F-critical value of 2.128* against the *F-table value of 2.02* (look up 91 under 8 in the F-table distribution on 5% significance level), the results of the pooled linear regression looses firm grip to serving as basis for reaching meaningful decision on the implication of the hypothesis test conducted.

Note that when calculated *F-critical value* is greater than the *F-table value*, the null hypothesis which states that *"there is no break point (different data set can be represented as one single linear regression)" is rejected and the alternate hypothesis accepted.* This means that the pooled regression model cannot be relied upon.

As a result, the separate linear regression models of Pre IFRS and Post IFRS regimes were adopted for reliable decision making purpose. Thus, the F-critical value as shown in ANOVA tables 4.7 and 4.10 served as the platform for decisions reached in this hypothesis. Since calculated F-critical values for Pre IFRS regime and Post IFRS regime (13.099 and 77.890) are greater than F-table value of 2.10, we reject the null hypothesis and accept the alternate. This implies that the *Beneish Model is significant in assessing the faithful representation of financial data disclosures of pre and post IFRS Financial Statements of selected public manufacturing companies in Nigeria*.

This was further substantiated from the Mscores outcome of the Beneish models analysis integrity scores as in Appendix Q where out of 250 observations made, each in the Pre IFRS regime and the Post IFRS regime, a total of 105 and 129 tendencies of unfaithful representation or questionable financial data integrity were identified in the pre IFRS and post IFRS Financial Statements of the public listed manufacturing companies evaluated.

More evidence from the tables 4.8 and 4.11 showed that Asset Quality Index (AQI), Gross Margin index (GMI) and Days Sales Receivable Index (DSRI) with p-values in the Pre IFRS period (000, 0.006, and 0.051) lesser or equal to 0.05,)made the most remarkable contribution in explaining the state of questionable financial data integrity among the 50 manufacturing companies studied in Nigeria

Moreso, indicators of the Beneish 8-predictive ratios obtained from the relevant computations carried out on the Pre IFRS and Post IFRS financial data disclosures evaluated (see table 4.25, appendix H) also showed that the Asset Quality Index (AQI), Growth Margin Index (GMI), the Day's Sales Receivable Index (DSRI) and others such as Sales General Administrative Expenses Index (SGAI) and the Sales Growth Index (SGI) threw up sensitive red flags from the evaluated Pre and Post IFRS financial data of the public manufacturing companies covered towards explaining the state of questionable financial data integrity observed among the 50 manufacturing companies studied.

4.3.3 Digit deviation from Benford's Law signals tendencies of unfaithful representation of financial data disclosures in pre and post IFRS financial reports of selected Nigerian manufacturing companies

Outcome of this extensive analysis as in tables 4.15 and 4.18 clearly reveal that the R^2 which measured the overall goodness fit of the regression models for Pre IFRS and Post IFRS regimes recorded values of .891 and .760 (adjusted R^2 were .794 and .577 for both countries). This meant that the Independent variables (digit 1, digit 2, digit 3, digit 4, digit 5, digit 6, digit 7, digit 8, and digit 9) in the model explained 79.4% and 57.7% variations in the dependent variable (Financial data digit deviation/score).

Pooled model summary to the equation as in table 4.21 indicates that 54% of the dependent variables obtainable in both financial reporting regimes were jointly explained by the Independent variables (digits 1 – 9). The ANOVA tables to the equation (tables 4.16 and 4.19) equally showed that the respective equations of the Pre IFRS and the Post IFRS reporting regimes are statistically significant (p-value of .005 and 0.016 are less than 0.05).

The pooled ANOVA table (table 4.22) also upheld the fact that the representation of the two individual linear regressions to Pre IFRS regime and the Post IFRS regime as a single linear data set is statistically significant ($p = 0.01$ is less than 0.05).

However, the outcome of the Chow test analysis is considered very crucial in reaching a more reliable conclusion as to whether to acknowledge and accept the outcome of the pooled linear regression for the Pre IFRS and Post IFRS financial reporting

regimes, or rely solely on the indicators of their individual linear regressions in making our judgment.

It is believed that, given the decision rule of the Chow test- to accept the alternate if calculated *F-critical value* is greater than the *F-table value,* otherwise *reject and accept the null hypothesis,* the null hypothesis which states that "there is no break point (different data set can be represented as one single linear regression)" is rejected and the alternate hypothesis accepted (calculated F-critical value = 215.36 is greater than F-table value of 2.02).

Given this situation, the study is compelled to place reliance on the respective calculated F-critical values obtainable from the ANOVA tables of the Pre IFRS and the Post IFRS regimes (5.140 and 4.820) against the F-table value of 2.10 derived from the F-table distribution (look up 41 against 8 at 5% level of significance).

Using decision rule- *accept null hypothesis if calculated F-value is less than the F-table value,* we accept the alternate hypothesis since calculated F-values (5.140 and 4.820) for the Pre IFRS and Post IFRS regimes are greater than the F-table value of 2.10. This implies that digits deviation obtained from the Pre IFRS and the Post IFRS Financial Statements of selected manufacturing companies after the application of the Benford's Law digital analysis does signal tendencies of unfaithful digit representation in disclosed financial data of manufacturing companies in Nigeria.

Clues from table 4.23 (see Appendix F) throw more insight into the effectiveness of the Law in signalling tendencies of digit deviations in disclosed financial data. For while the Law succeeded in making a total of 442 observations (out of a total of 900 considerations) of questionable first digits deviations in the Pre IFRS and Post-IFRS financial reporting data of selected manufacturing companies in Nigeria, 458 situation which is subject to further assessment/evaluation were observed to maintain a reasonable level of first digit data integrity.

4.3.4 Ratios outcome of the test of financial data faithful representation using the Beneish Predictive model differ significantly in the Pre and Post IFRS financial reporting regimes of selected public listed manufacturing companies in Nigeria

Understanding the indicators of the Mann Whitney U test analysis table is prerequisite for making right judgments and reaching an unbiased conclusion as to the implications of the findings obtainable.

Based on the output of figure 4.1, it could be seen that the probability value (p-value) obtained is .105 (emphasis is on the Asympototic sig) which is greater than 0.05. Besides, the Mean Rank for both financial reporting regimes does not differ significantly. While Pre IFRS financial reporting practices ranked 55.20, outcome of the Beneish 8-ratios evaluation of the studied manufacturing companies Post IFRS financial disclosures ranked 45.80 (20.5% difference), portraying a picture of no significant difference, though some difference does exist between the indicators of the two regimes.

When p-value (same as Asympototic sig) < 0.05, we reject the null hypothesis and accept the alternate hypothesis. It is also noteworthy that a p-value greater 0.05 indicates that no significant difference exist in the scores (usually the Mean Rank) of any two groups being considered. The reverse is the case where the p-value obtained is less than 0.05.

Since the p-value (0.105) is greater than 0.05, we accept the null hypothesis and this implies that the ratios outcome of the test of financial data faithful representation among selected manufacturing companies in Nigeria using the Beneish Predictive model do not differ significantly in their Pre IFRS and Post IFRS financial reporting periods covered. This goes to show the need for more improvement in the corporate governance practices of corporate organizations especially as it has to do with the financial reporting attitude, practices, and ethics of such organization during/after possible switch from one reporting framework to another.

4.3.5 Implications of the Benford's law digital analyses of the Pre and Post IFRS financial reporting practices of selected Nigerian manufacturing companies differ significantly.

A look at the output in figure 4.2 shows that the probability value (p-value) obtained is .111 (emphasis is on the Asympototic sig) which evidently is greater than 0.05. Besides, the Mean Rank for both financial reporting regimes does not differ significantly. The digit deviation outcome of the financial data disclosures evaluations showed that the Pre IFRS financial reporting practices ranked 45.88 while that of the Post IFRS period was 51.12 (*10.3% difference*).

Accordingly, when p-value (same as Asympototic sig) < 0.05, we reject null hypothesis and accept the alternate hypothesis. It is also noteworthy that a p-value greater 0.05 indicates that no significant difference exist in the scores (usually the Mean Rank) of any two groups being considered.

Since the p-value (0.1111) is greater than 0.05, we accept the null hypothesis and this implies that the implications of the Benford's law digital analyses executed on the financial data of the Pre IFRS and Post IFRS Financial Statements of selected manufacturing companies in Nigeria does not differ significantly. Comparing the Mean Rank strength of scores derived from the Pre IFRS period and the Post IFRS period (45.88 and 55.12) equally attest to the fact that no unique difference exist in the implications of the output derived from the Benford's law digital analysis.

Indicators of table 4.23 (see Appendix F) lend support to this, seeing that aside 223 against 217 tendencies of questionable digit deviation observed between the Pre IFRS period and the Post IFRS regime (a difference of 2.76% between the two financial reporting regimes' digit analyses outcome), further scrutiny revealed that incidence of reasonable digit frequency observed between the two periods is equally 227 against 233 observations (a difference of 2.58% between Pre IFRS and Post IFRS Periods).

4.3.6 Beneish integrity scores of Pre and Post IFRS financial data in Nigeria differ.

The progressive embrace of the International Financial Reporting Standards (IFRS) globally was considered an immediate response to resuscitating the International Stock Markets from the after effect of the then deteriorating incidences of corporate failures witnessed in the post-2002 business year worldwide.

With a renewed emphasis on high quality Financial Statements, the need to restore investors confidence on corporate financial information globally through enhanced comparability of disclosed financial data across International Stock Markets cannot be overlooked. Thus, given the magnitude of global response to IFRS through adoption, the mission statement that crusaded the development of IFRSs by the International Accounting Standard Board (IASB), is believed to meet Investors expectations in this area- *promotion of transparency and faithful representation of disclosed financial information of corporate organizations*. A look at the output in figure 4.3 shows that the probability value (p-value) obtained is .124 (emphasis is on the Asympototic sig) which evidently is greater than 0.05. Besides, the Mean Rank for both countries does not differ significantly. Pre-IFRS scores ranked 46.04 while those of her post-IFRS financial reports stood at 54.96 (*16.2% difference*).

Accordingly, when p-value (same as Asympototic sig) < 0.05, we reject null hypothesis and accept the alternate hypothesis. It is also worthy of note that a p-value greater 0.05 indicates that no significant difference exist in the scores (usually the Mean Rank) of any two groups being considered.

The reverse is the case where the p-value obtained is less than 0.05. Since the p-value (0.124) is greater than 0.05, we accept the null hypothesis and this implies that Beneish integrity scores of Pre IFRS and Post IFRS disclosed financial data of public manufacturing companies in Nigeria do not differ significantly.

Evidence from table 4.24 (see Appendix G) shows that observation made from 50 selected Nigerian manufacturing companies for the years 2007 – 2011 (pre-IFRS period) and 2012 – 2016 (post IFRS period) indicates that out of a total of 500 observations made in both reporting regimes, questionable financial data integrity

scores generated by the Beneish predictive model was 105 incidences in the pre-IFRS period of the fifty (50) selected Nigerian manufacturing companies against 129 incidences recorded in their post-IFRS periods (2012 – 2016).

Similarly, a situation of reasonable financial data integrity was also noted among these same companies with 145 incidences recorded in the pre-IFRS period (2007 – 2011) and 121 incidences observed in the selected companies post-IFRS Financial Statements of 2012 – 2016 (see table 4.26 as in Appendix G). Interestingly, no real significant difference appears to exist in the figures given above.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The focus of this study has been to comparatively evaluate for the integrity status of the IFRS Financial Statements obtainable in Nigeria. Given the above blueprint, emphasis was chiefly restricted to the faithful representational strength of financial data published by the manufacturing companies being considered in their first five years of IFRS adoption and implementation while adopting a five year backend Financial Statements published by these companies before the adoption of IFRS on January 1st, 2012 in Nigeria. Thus, financial data were sourced from the 2007 – 2011 Financial Statements (Pre IFRS period) as well as from 2012 – 2016 Financial Statements (Post IFRS period).

Below are the unique findings made after all planned relevant analyses were carried out:

1. Benford's Law is significantly effective in evaluating the faithful representational quality of IFRS Financial Statements' disclosures of Nigerian public listed companies. A total of 440 tendencies of questionable data digit integrity out of 900 considerations evaluated was pin pointed for extensive scrutiny with 223 of such tendencies occurring in the Pre IFRS period and 217 of such tendencies observed in the Post IFRS period. Digits 3, 8, 1, and 5 recorded higher tendencies of questionable digit integrity.
2. Beneish Model is significant in assessing the faithful representation of financial data disclosures of pre and post IFRS Financial Statements of selected public manufacturing companies in Nigeria. A total of 105 and 129 tendencies of unfaithful representation or questionable financial data integrity were identified in the Pre IFRS and Post IFRS Financial Statements of the public listed manufacturing companies evaluated. Moreso, Asset Quality Index (AQI), Gross Margin index (GMI) and Days Sales Receivable Index (DSRI) with p-values in the Pre IFRS period (000, 0.006, and 0.051) lesser or equal to 0.05) made the most remarkable contribution in explaining the state of questionable financial data integrity among the 50 manufacturing companies studied in Nigeria, thereby

exposing tendencies of capitalisation and deferment of cost that should have been expended, deteriorating profit margin that sets in pressure to alter the records, and the inflation of turnover to boost profit.

3. Benford's Law digital analysis signals tendencies of unfaithful digit representation in disclosed financial data of manufacturing companies in Nigeria. A total of 442 observations (out of a total of 900 considerations) of questionable first digits deviations in the Pre IFRS and Post-IFRS financial reporting data of selected manufacturing companies were made,
4. The Beneish 8-ratios outcome of the test of financial data faithful representation does not differ significantly in the Pre and Post IFRS financial reporting regimes of the Nigerian public listed manufacturing companies covered. Beneish 8-ratios indicators for the Pre IFRS and Post IFRS financial reporting practices ranked 55.20 and 45.80 (20.5% difference).
5. Implications of the Benford's law digital analyses of the pre and post IFRS financial reporting practices of selected Nigerian manufacturing companies do not differ significantly. Aside 223 against 217 observed tendencies of questionable digit deviation in the Pre IFRS period and the Post IFRS regime (a difference of 2.76%), further scrutiny revealed that incidence of reasonable digit frequency observed between the two financial reporting regimes stood at 227 against 233 observations (a difference of 2.58% between Pre IFRS and Post IFRS Periods).
6. Beneish model analysis integrity scores obtained on the Pre IFRS and Post IFRS disclosed financial data of public manufacturing companies studied in Nigeria do not differ significantly. Mean ranks of the Pre IFRS and Post IFRS financial reporting periods of the Nigerian manufacturing companies evaluated (54.96 and 45.04) readily attest to this. More so, tendencies of financial data manipulations or questionable financial data disclosures observed through the Beneish Manipulation scores (*M Scores greater than -2.22*) of her Pre IFRS Financial Statements totaled 105 while those of her Post IFRS period peaked at 129 (See Appendix G).

5.2 CONCLUSION

Given the findings made in this study in response to six objectives earlier envisaged, it is pertinent to note that a 100% financial data integrity is not usually attainable in the accounting process of any well established corporate organization though a commendable and acceptable level of transparency could be upheld. This is due to various limitations often encountered by businesses in their effort to maintain a reliable smooth level of operation of the business. And this challenges which differ unevenly across business environments, entities, industries, sectors and countries, if not treated, often threaten the survival or the profit making abilities of a given business.

The situation observed in respect of objectives one to six, is rather disturbing to the extent that the state/quality of corporate governance obtainable in some manufacturing companies studied in the Pre IFRS and Post IFRS regimes may afterall remain a source of worry. This is because, financial Information integrity, in part, depends largely on the quality and accuracy of financial data supplied by the Executive directors or relied on for use by potential investors. A situation whereby indicators of the Benford's Law and the Beneish model obtained in the Pre IFRS and Post IFRS periods clearly points to the prevalence of creative accounting activities such as deferment of cost/expenses from loss periods to profitable periods and the capitalization of costs that should have been expensed (AQI), alteration of profitability status of the company due to the deteriorating state of the company profit margin (GMI), inflation of revenue and the company's turnover (DSRI) and the use of slower but earnings friendly depreciation rates (DEPI) during financial reporting calls for caution and immediate regulatory intervention.

Perceptive review of Post 2002 events in the international market has shown that poor quality accounting information has contributed immensely to lose of productivity, failed companies and low investors confidence in published Financial Statements despite IFRS intervention. Nate (2016) supports this view when he tried to say that Accounting Information integrity is usually deemed secured when accuracy and consistency (validity) of financial data disclosed over its reported periods' lifecycle is upheld.

Drawing the curtain against observations made in respect of objectives four, five and six will be incomplete without highlighting the feature common among them theoretically. The prevalence of a no significant difference between the outcome of the Beneish model's analysis and the Benford's law test (B & B models) as well as the accompanying extensive analyses carried out on the outcome of the B & B models attests to the fact those responsive measures devisable to handling possible financial reporting challenges may not be the same yet could lead to the same possible outcome when applied appropriately. Such measures must also be designed to reflect the existing domestic anti ethical norms and value that genuinely mirrors notable corporate accounting culture/possible practices of companies in the Pre IFRS period despite the adoption and implementation of IFRS.

In Nigeria, for instance, the emergence of the Prudential guideline in 2010 as ethical response to the deteriorating state of corporate governance in the banking sector as at 2010 despite the release of the roadmap for the adoption of IFRS the same year, is a reference point. Absolute reliance on the extensive disclosure requirements of IFRS as an express antidote to tendencies of unfaithful financial data representation without a conscious monitory and routine assessment of an organisation's internal control processes can be very devastative. The situation of no significant difference between the Pre IFRS and Post IFRS Financial Statements integrity score of the Benford's Law and the Beneish model sheds more insight to this.

5.3 RECOMMENDATIONS

Having made some sensitive findings and observations, this study herein makes the following recommendations:

1. The discovery of effective framework or model as Benford's law has never been a problem for Nigeria except its implementation, perhaps, because of the time and energy it demands to properly execute. Given its positive and unique impact at uncovering tendencies of financial data digits deviations from expected naturally occurring distribution, Professional Accountants, Forensic Auditors, Internal Auditors, and Analysts Nigeria are advised to embrace this digital test model (Benford's law) towards reducing questionable financial data digit integrity practices among its manufacturing companies. Boards of directors of companies

can also subject the official annual financial reports of companies' Executives to the Benford's law scrutiny and assessment before its official presentation to shareholders of the company at the annual general meeting of companies for approval.

2. Given the sensitive outcomes of the Beneish model ratios as AQI, GMI, DSRI, and DEPI we recommend that close supervisory/evaluative attention be given by the audit committees of corporate manufacturing companies in Nigeria to issues of undue undue deferment of costs from loss period when they were duly incurred to profitable latter periods, capitalization of expenses that should have been expensed, exploitative use of earnings friendly depreciation methods, and the earlier recognition of turnover by companies even before it has been earned or the possible inflation of the same to maintain a big performance or face in the Capital market. Professional recommendation of the Beneish model for adoption and usage in 2001 by the International Federation of Accountants (IFAC) to member countries, professional Accountants, Forensic Accountants, External Auditors, Certified Accountants (Cynthia, 2001) should serve as reliable professional assurance of its relevance and reliability during audit.
3. Complementing Beneish model's effort at pointing to areas of disputable/questionable integrity in the Financial Statements meant that understanding the exact first digits affected by means of Benford's law analyses will go a long way assisting professional Accountants in making a more reliable investigation towards averting possible tendencies of corporate failure that could have far reaching negative consequences on the liquidity stamina of corporate organisations. The embrace of Benford's law will also serve as added advantage to professional Accountants (as Internal Auditors) in the employment of corporate organizations especially in such organizations where the accounting functions of financial accounting and Internal Audit are separated.
4. Given the no significant difference status observed from the comparative evaluation of Nigeria's Pre IFRS and Post IFRS financial reporting practices, it is highly recommended that the oversight role of the board of directors on issues of corporate governance especially those directly affecting all accounting functions and practices within the organization be strengthened to help boost accountability and transparency within the system, seeing that the level of unfaithful

representation of financial data disclosures observed in the Pre IFRS period appear not to have reduced in the Post IFRS period..

5. The issue of appropriate authentication of inflows and outflows from the organization should also be given considerable quality attention especially where the backend inclusion of additional digit number to an already approved or unapproved expenditure or transaction is the case. Inclusion of additional zero to an N100,000 will certainly undermine the transparency of a financial record when presented as N1,000,000. This often the cause of digit deviation from the the Benford;s Law frequency distribution of digits, hence the need for the adoption and use of Benford's Law during accounting records appraisal in corporate organisations.
6. Assumptions by some potential investors that the adoption and compliance of listed companies to the disclosure requirements of IFRS readily assures them of credible and transparent financial disclosures by the reporting entity may be costly if not properly substantiated. There is then the need for users of financial information to assure themselves that the Financial Statements they are relying on are free from unfaithful representation. Also, a balance need to be struck by users between companies' *quality of outright compliance to disclosure requirements of IFRS* and the *integrity status maintained by such financial data disclosed in the Financial Statements.* This calls for the use of tested and proven models as Beneish predictive models.

5.4 IMPLICATION OF FINDINGS

1. .The digital analytical test model, Benford's law, is significant in assessing the faithful representational quality and financial digit integrity of disclosed financial data of selected public listed manufacturing companies. The implication is that even when a given amount of a given disclosure item is certified reasonably represented faithfully by the Beneish model, the use of the Benford's law has often drawn the attention of Forensic Accountants back to the amount involved, with express emphasis placed on the integrity of the position maintained by the first digit in the so amount disclosed, for example N1,000,000 suspected to be N100,000 towards substantiating the appropriateness of that digit as a right starter in the amount so disclosed.

2. Beneish Predictive model is considered relevant for the effective assessment of the faithful representation status of financial data disclosed in the Pre IFRS and Post IFRS Financial Statements of the public listed manufacturing companies studied.. This means that, despite the advantage of extensive disclosure that IFRS promotes in Financial Statements, corporate organisations still have their ways of making the picture look good even when the opposite is the case. Given the findings made from the Beneish model and the result of the extensive analysis conducted, the situation could be seen to prevail in both financial reporting regime.
3. Benford's Law digital analysis has a proven capacity to signal tendencies of unfaithful digit representation in disclosed financial data of manufacturing companies in Nigeria. This portends to say that the Pre IFRS and Post IFRS Financial Statements of Nigerian manufacturing companies evaluated are evidently being exposed to first digit manipulation by the Executive directors of the affected companies.
4. The fact that a no significant difference situation was established in the outcome of the Beneish 8-ratios test conducted on the financial data of Pre IFRS and Post IFRS financial reporting practices of selected manufacturing companies readily attest to the fact that the mere adoption and compliance of corporate organizations to the disclosure requirements of IFRS without an equivalent effort staked at ensuring that the company's internal controls system are in good shape will only amount to pouring water in holed baskets.
5. Appreciating the fact that no red light blinking significant difference exist on the implications of the Benford's law digital analyses executed on the financial data of the Pre IFRS and Post IFRS Financial Statements of selected manufacturing companies in Nigeria lend more credence to the fact that altering the unit cost of expenditure items downwards in order to boost Revenue/Turnover as well as operating profit for the period upwardly undermines the faithful representation status of such Financial Statements. Emphasis is therefore needed on the digits, not just the amount disclosed on financial reports as a whole.
6. The discovery that the Beneish model analysis integrity scores obtained on the pre-IFRS and post-IFRS disclosed financial data of public manufacturing companies studied in Nigeria presents no picture of significant difference attest to the fact that ingenious approaches, despite the country's successful transition to

IFRS guidelines, play unique roles during Financial Statements preparation by manufacturing companies in Nigeria.

5.5 CONTRIBUTION TO KNOWLEDGE

The research work has successfully developed a conceptual framework that strengthens corporate organizations capacity to effectively evaluate and secure financial data integrity in the Financial Statement's disclosures.

5.6 SUGGESTIONS FOR FURTHER RESEARCH

Postgraduate students in finance specialized discipline in Nigeria should take to the labs to empirically examine the relevance of the models used in the study *(Beneish predictive model and the Benford's law- B & B Models)* in the conduct of Internal and External Audit towards substantiating the effect of IFRS on desired faithful representation of corporate Financial Statements published in Nigeria.

Scholars and professional Accountants in academics in Nigeria are herein requested to carry out further complementary studies towards substantiating the unique evidences made in this research work.

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APPENDIX A

Data Extract Sheet for Nigerian Companies

Name of Company_____ Sector_____

	Pre IFRS Financial Statement					Post IFRS Financial Statement				
ITEMS	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Accounts Receivable										
Current Assets										
Prop. Plant & Eq										
Total Assets										
Current Liabilities										
Long-term Debt										
Turnover/Revenue										
Cost of Goods Sold										
Selling &Admin. Ex										
Operating Income										
Cash Flow frmOper.										
Depreciation										

SOURCES: *Annual Reports and Audited Accounts,*