

ACHIEVING TRANSPARENT IFRS FINANCIAL REPORTING IN NIGERIA AND GHANA: THE B & B MODEL EFFECT

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ABSTRACT

In Africa, the transparency quality of financial disclosures appears to rank below expectations after several years of adopting IFRS. Some scholars advocate for the deployment of multi investigative models as a complement during Financial Statements audit to help secure reasonable transparency in IFRS financial reporting. As a result, this study intends to ascertain the effectiveness of Benford's Law in evaluating the faithful representation quality of IFRS financial disclosures of public listed companies. It also intends to determine whether Beneish Ratios are suitable complements in evaluating faithful representation quality of financial disclosures. Being casual comparative research, the 2009 - 2011 and 2012 - 2016 IFRS Annual Reports of 44 listed manufacturing companies in Ghana and Nigeria were evaluated. Analyses were executed using Benford's Law and Beneish Ratios (B & B Model), Chi-Square, Multiple Regression and Mann Whitney U test. Findings obtained showed that Benford's Law, upon proper deployment and application, is effective in evaluating the faithful representation quality of financial disclosures in IFRS based Financial Statements of public manufacturing companies in Nigeria and Ghana. Also, Beneish Ratios were observed to be suitable complements in evaluating the faithful representation of IFRS financial disclosures of these companies studied in both countries. Based on the above findings, it was concluded that expected reasonable transparency in IFRS financial reporting is not the case in Nigeria and Ghana despite both countries' compliance with IFRS.

Key Words: B & B Model, Faithful Representation Quality, IFRS Financial Disclosures, Manufacturing companies, Transparency.

1. INTRODUCTION

The impact result of global economic crisis lends support to reasons behind the crusade for the uniformity of accounting frameworks and the consequent geometric rise in the adoption of the International Financial Reporting Standards (IFRS) across several reporting jurisdictions worldwide.

Observation across Africa showed that the continent was hit unprepared. The experience that followed in Nigeria and Ghana was the fold-up of notable public entities as Commercial banks and the later loss of billions of Naira and Cedis worth of business equities.

The collapse of notable corporate giants as Enron (USA), WorldCom, Global Crossing (Europe), Nationwide Airlines, Velvet Sky Aviation, 1 Time Holdings (South Africa) and the consequent buy up or takeover of some notable Deposit Money Banks in Nigeria as AfriBank, Oceanic Bank, Intercontinental Bank, Bank PHB, First Inland Bank, Skye Bank, (Nwoye, Obiorah & Ekesiobi, 2015) and most recently Diamond Bank had all attracted stern public outcry against the accounting profession with External Auditors accused of conspiracy and breach of the public trust reposed on them. The consequence was that the existing confidence of users on Financial Statements of listed corporate organizations was forced below the bottom line, despite the sanctions of the Administrative Proceedings Committee on convicted Management Executive members and the External Auditor of Cadbury Nigeria Plc in 2007 for its purported overstatement of over N13 billion in its financial reports for the years 2002 – 2006. This event still lingers fresh in the historic memos of the nation.

Although Ghana's economic and corporate atmosphere cannot be said to have thrived well during this period of global economic failure, the August 14, 2017, and August 1, 2018 press release of the Central Bank of Ghana which revealed the collapse, takeover and/or merger of seven indigenous banks (wiki source, 2019b) namely UT Bank Ltd, Capital Bank Ltd (*both taken over by GCB Bank Ltd*), Unibank Ghana Ltd, Royal Bank Ltd, Beige Bank Ltd, Sovereign Bank Ltd and Construction Bank Ltd (*all latter five banks merged to form Consolidated Bank Ghana Ltd*) explicitly affirm the above possible fears. Though Ghana had in times past recorded corporate failures as Tano Agya Rural Bank, Tana Rural Bank Ltd, Meridian BIAO Bank, Bank for Credit and Commerce International, Gateway Broadcasting Services, Ghana Co-operative Bank, Bank for Housing and Construction, National Savings and Credit Bank, Merchant Bank Ghana Ltd, Ghana Airways Ltd, Juapong Textiles Ltd, Bonte Gold Mines, Divine Sea Foods Ltd et cetera, the outcry of Frimpong, Ameyaw, Bonsu and Abena (2017) that little or no study has been done in Ghana in the form of empirical research to ascertain the level of unfaithful representation in Ghanaian companies' financial reporting practices may have saved the situation from deteriorating further if it had received a follow up proactive investigative positive response from relevant regulatory authorities in Ghana. While local investor in Nigeria 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 (NG GAAP), Oheneba, Muhammad and Kamran, (2011) noted that the Ghanaian local GAAP (Ghanaian National Accounting Standards) which the country relied on before January 1st, 2007 when it adopted IFRS, were highly insufficient for the preparation of an informative corporate financial report that represents the interest of both local and foreign investors.

The fear of possible loss of investments due to prevalence of different accounting basis for the preparation of Financial Statements in Nigeria and Ghana before January 1, 2012, and 2007 when both countries adopted IFRS equally 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 which 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 gave rise to the movement for the harmonization of financial reporting standards of nation-states. It can almost be said that the financial crisis that ravaged the global Capital markets was mainly due to insufficiency of or the absence of trustworthiness in financial information disclosed (Bahrami & Bejan, 2015).

Callao, Ferrer, Jarne and Láinez (2010) upheld this view arguing that the introduction of a uniform accounting regime as IFRS is expected to ensure greater comparability and transparency of financial reporting around the world. The essence of this sensitive intervention by the International Accounting Standard Board (IASB) from April 2001, 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 disclosures reflect the companies' financial position and performance during the investment decision making process. This implies that in the absence of investors' confidence in an entity's accounting information, the integrity of such financial information could be considered anything but a questionable one. Atu, Adeghe and Atu (2016) concur to this, stating that the adoption of IFRS increases the confidence level of global Investors and investment Analysts in the Financial Statements of public listed companies in Nigeria even as multinational companies ability to fulfil the disclosure requirements for Stock Exchanges globally is greatly enhanced.

This entails that the prevalence of a high-quality financial information system that permits transparency and proper accountability in a country or organization is considered a worthwhile goal. To this, Lepădatu and Pîrnău (2009) concur stressing that the transparency of Financial Statements is secured through commendable full disclosures by providing to a wide range of users with a fair presentation of useful information necessary for making economic decision. The discourse of transparency of Financial Statements and financial disclosures' integrity appear to be more meaningful when treated within the scope of transparency/faithful representation during financial reporting. This, in essence, is the very reason why Investors and Professional Accountants, according to Okoye, Nwoye and Abiahu (2018) must watch out for sensitive choking smogs that could pave way for creative accounting practices among entities. It could be recalled that despite the full adoption of IFRS in Nigeria and Ghana in 2012 and 2007, both countries have continued to witness sensitive corporate failures largely due to what the Central Bank of Nigeria and the Central Bank of Ghana referred to as 'insolvency/illiquidity challenges' and "weak regulatory oversight". For while Nigerian public listed giants like Intercontinental Bank Plc and Diamond Bank Plc got taken over by Access Bank Plc, seven (7) indigenous banks in Ghana (as outlined above) lost their trading feet in Ghana; all events happening in the post-IFRS adoption period of

both countries. It is on this premise that Mehta and Bhavani (2017) advocated for a more extensive review of financial reports through the joint application of the Benford's Law and the Beneish Predictive model (hereafter referred to as B & B models) as a means of strengthening the practice of transparent financial reporting and/or faithful representation built on good corporate governance among corporate organisations.

Hence, the study intends to examine the effect that the utilization of the B & B Model would have upon proper deployment to secure reasonable transparency in IFRS Financial Statements of selected manufacturing companies in Nigeria and Ghana. Specifically, the paper will aim to ascertain the effectiveness of the Benford's Law in evaluating the faithful representational quality of financial disclosures of Nigerian and Ghanaian publicly listed companies; to determine whether Benford's law digital analyses have implications in the post IFRS reporting periods of Nigeria and Ghana differ significantly; and to determine whether the Beneish Ratios are suitable complementary assessment tools in evaluating faithful representation quality of IFRS financial disclosures of Nigerian and Ghanaian manufacturing companies.

The rest of the paper is organized as follows: Section two presents a literature review on the concept of quality accounting information disclosures, the status of IFRS adoption in Africa, IFRS compliances in Ghana and Nigeria, faithful representation versus transparency during financial reporting, theories of Beneish model and Benford's Law, empirical summaries from prior studies and gap established. Section three of the paper presents the materials and methods used for data analyses. Data analyses proper, results and discussions are presented in section four whilst section five concludes the paper with relevant recommendations made.

2. LITERATURE REVIEW

2.1 Concept of Quality Accounting Information Disclosures

Financial Statements are a 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 (Wallis, 2016) and cash flows of an entity which is considered useful to a wide range of users in making economic decisions. 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 a quality quantum of financial information that is useful to them, especially at making decisions that could help them secure their interest in the reporting entity (Adetunji, Mamuda, & Wula, 2014).

The need to secure and sustain the practice of transparency and faithful representation of business stewardship among corporate organizations can perhaps be traced to the complexity of the modern-day business world that began in the 18th century. According to Ndibe and Okoye (1998) and Summers (2016), the rise of the industrial revolution brought in large scale production, steam power, improved facilities and better means of communication that consequently prompted the need for improved accounting system in organisations.

This, Summers (2016) reported, resulted in the origin of Joint Stock form of organizations such that Shareholders who contributed their money as capital to these companies did not manage or have control over the day to day working of the organization. Yet, these Shareholders were often interested in knowing what happened to their investment, its growth status 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 business financial report to the Shareholders at the end of each financial year (Summers, 2016). Thus, Financial Statements show the results of the management's stewardship (EFRAG, 2007) of the resources entrusted to it. To meet this objective, information about an entity's assets, liabilities, equity, income and expenses including gains and losses, contributions by and distributions to owners in their capacity as owners and cash flows should be provided in the Financial Statements.

Although it is Edogbanya and Kamardin (2016)'s expectation that a positive relationship exists between better-performing companies and corporate disclosure, Idialu (2014) posits that corporate financial information disclosed for public consumption is considered relevant when such accounting information is seen to be “*accurate, complete and fair*” for trustworthiness and faithfully representation purpose. Haka and Carcello (2016) stressed that it is important that accounting information possess these qualities due to its significance to individuals for essential investment or managerial decision making purposes.

Today, global effort is being intensified towards achieving a uniform ground for the preparation and presentation of a high-quality set of Financial Statements that are acceptable worldwide (Abata, 2015b). The International Accounting Standards Board (IASB) in the United Kingdom and the Financial Accounting Standards Board (FASB) in the United States of America have both shown mutual commitment towards this course at Norwalk (Ong, 2017) back in 2002 though progress has been slow-paced. Despite this, commendable milestones have been recorded in global accounting history especially as more than 170 countries have either required or permitted the adoption and implementation of the International Financial Reporting Standards (IFRSs), issued by IASB from April 1, 2001, as regulatory accounting Standards for financial reporting practices in their respective jurisdictions.

As a principle-based set of accounting Standards (Gill, 2003) that paves room for use of professional judgment and upholds comparability and transparency of Financial Statements as its core values through extensive disclosures (Ofoegbu & Odoemelum, 2018) across borders or between different reporting jurisdictions, IFRS is still considered a subject of intense controversy in the United States of America and some other countries, though many countries in Africa have either adopted it as December 2019 or plan to do so in the future.

2.2 Status of IFRS Adoption in Africa

The financial reporting landscape was different for every country when the IASB took over from its predecessor IASC and began its work in late March 2001 with the issuance of IFRS (Asumadu & Das, 2018). Regardless of the benefits, the adoption of IFRS provides to developing nations, the loss of control on Standards setting by the regulatory body of adopting nation, possible abuse of monopoly by the global Standard setting body over the Standard setting process, unsuitability of global Standards to local economic environments and regulatory framework, possible complexity in the structure of international Standards, potential knowledge shortfall, difficulties in the application of the Standards and enforcement challenges (Inusah & Dwommor, 2017) were evident mountains that discouraged most developing countries from embracing the international reporting Standards (IFRS). Some African countries, because of this, are yet to adopt, require or permit the use of IFRS in their jurisdiction. Given below in Table 1 is the status of IFRS adoption in Africa as at December 2019.

Table 1 : Africa and IFRS adoption to date

S/N	Name of Adopting Country	Mode of Adoption	Year Adopted	Name of Stock Exchange	Region of Africa
1	Algeria	Not adopted		Algers Stock Exchange	North Africa
2	Angola	Required for banks only	Jan. 2016	Angola Stock Exchange & Derivatives	Central Africa
3	Benin Republic	Required	Jan. 2019	Bourse Regionale des Valeurs Mobilieres (BRVM)	West Africa
4	Botswana	Required and permitted	Sept. 2009	Botswana Stock Exchange	South Africa
5	Burkinafaso	Required	Jan. 2019	Burkinafaso Stock Market	West Africa
6	Burundi	Not adopted		No Stock Exchange	East Africa
7	Cameroon	Required	Jan. 2019	Douala Stock Exchange	Central Africa
8	Cape Verde	Required	2008	Bolsa de Valores de Cabo Verde	West Africa
9	Central African Republic	Required	Jan. 2019	Bourse Regionale des Valeurs Mobilieres d'Afrique Centrale (BVMAC)	Central Africa
10	Chad	Required	Jan 2019	BVMAC	Central Africa
11	Comoros	Required	Jan. 2019	No Stock Exchange	East Africa
12	Cote d'Ivoire	Required	Jan. 2019	BRVM	West Africa
13	Democratic Republic Congo	Required	Jan. 2019	BVMAC	Central Africa
14	Republic of Congo	Required	Jan. 2019	Not available (N.A)	Central Africa
15	Diibouti	Not adopted		Not available (N.A)	East Africa
16	Egypt	Required	1993*	Egyptian Exchange	North Africa
17	Equatorial Guinea	Required	Jan. 2019	BVMAC	Central Africa
18	Eritrea	Required for unlisted companies	N.A	No Stock Exchange	East Africa
19	Ethiopia	Permitted	N.A	N.A	East Africa
20	Gabon	Required	Jan. 2019	BVMAC	Central Africa
21	The Gambia	Required and permitted	Jan. 2013	No Stock Exchange	West Africa
22	Ghana	Required	Jan. 2007	Ghana Stock Exchange	West Africa
23	Guinea	Required	Jan. 2019	N.A	West Africa
24	Guinea Bissau	Required	Han. 2019	BRVM	West Africa
25	Kenya	Required	Jan. 1999	Nairobi Securities Exchange	East Africa
26	Lesotho	Required	2005	Maseru Securities Exchange	South Africa
27	Liberia	Required for banks only	2012	No Stock Exchange	West Africa

Source: Authors' compilation (2019), IAS Plus, <https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs>,

Table 1 : Africa and IFRS adoption to date

		Permitted	N.A	Libyan Stock Market	North Africa
28	Libya	Permitted	N.A	Libyan Stock Market	North Africa
29	Madagascar	Permitted	N.A	No Stock Exchange	East Africa
30	Malawi	Required	October 2009	Malawi Stock Exchange	East Africa
31	Mali	Required	Jan. 2019	BRVM	West Africa
32	Mauritania	Not adopted		No Stock Exchange	West Africa
33	Mauritius	Required and permitted	N.A	Stock Exchange of Mauritius	East Africa
34	Morocco	Required	Jan. 2008	Casablanca Stock Exchange	North Africa
35	Mozambique	Required for banks only	2007	BRVM	East Africa
36	Namibia	Required	Jan. 2005	Namibian Stock Exchange	South Africa
347	Niger	Required	Jan. 2019	BRVM	West Africa
38	Nigeria	Required	Jan. 2012	Nigerian Stock Exchange	West Africa
39	Sao Tome and Principe	Not Adopted		N.A	Central Africa
40	Rwanda	Required	2009	Rwanda Stock Exchange	East Africa
41	Senegal	Required	Jan. 2019	BRVM	West Africa
42	Seychelles	Not Adopted		Marj Exchange Limited	East Africa
43	Sierra Leone	Required	2009	Sierra Leone Stock Exchange	West Africa
44	Somalia	Permitted	N.A	Somali Stock Exchange	East Africa
45	South Africa	Required	Jan. 2005	Johannesburg Stock Exchange	South Africa
46	South Sudan	Permitted	N.A	N.A	East Africa
47	Sudan	Permitted	N.A	Khartoum Stock Exchange	North Africa
48	Swaziland	Required	2009	Swaziland Stock Exchange	South Africa
49	Tanzania	Required for MNCs only	2004	Dar es Salaam Stock Exchange	East Africa
50	Togo	Required	Jan. 2019	BRVM	West Africa
51	Tunisia	Not adopted		Bourse de Tunis	North Africa
52	Uganda	Required	1998*	Uganda Securities Exchange	East Africa
53	Zambia	Required	2005	Lusaka Stock Exchange	East Africa
54	Zimbabwe	Required	1996*	Zimbabwe Stock Exchange	East Africa

Source: Authors' compilation (2019), IAS Plus, <https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs>, Wiki source (2018), https://www.wikipedia.org/wiki/list_of_African_Stock_exchanges

* These were already on IASs issued by IASC before the emergence of IFRS in April 2001 as issued by IASB.

From Table 1, 41 out of 54 African countries, as of December 31st, 2019, have adopted IFRS financial disclosures guideline. Of this number, 33 countries required the same for all listed companies across all sectors and some unlisted companies as in Eritrea while 8 of them as Angola, Botswana, Gambia, Liberia, Mauritius, Morocco, Mozambique, and Tanzania required IFRS for some category of companies that are mostly financial institutions, though a few of them equally permitted it (IFRS) side by side with its mandatory requirement in some sectors as in Botswana, Gambia, Liberia, Mauritius and Morocco, to pave room for the voluntary application of the same by some companies who may choose to apply the affected jurisdiction's local GAAP or US GAAP instead of IFRS. 6 countries as Ethiopia, Libya, Madagascar, Somalia, South Sudan and Sudan only permits (not require) the use of IFRS. The remaining 7 countries as Algeria, Burundi, Djibouti, Mauritania, Sao Tome, Seychelles, and Tunisia neither required not permits the use of IFRS in their jurisdiction.

The above details equally update the account of Tawiah (2019) who observed that as at 2017 (as published by IFRS Foundation), only 18 African countries required IFRS for all companies, 4 countries required the International Financial Reporting Standards for some companies, 9 African countries permitted the use of IFRS while 21 African countries did not permit the adoption and use of IFRS in its reporting jurisdiction. This paints a picture of unprecedented unique improvement in the embrace of IFRS guidelines by African countries.

The rise in adoption rate in Africa (76% African countries presently using IFRS) is a remarkable improvement compared to the continent's adoption status as at 2010 where only 20% of the 54 African countries (the equivalent of 11 African countries) were reported by Ismaila, (2010) cited in Abata (2015a) to have adopted IFRS then. This laudable progress can also be attributed to the unanimous action taken by 17 member countries of the Organisation for the Harmonization of Corporate Law in Africa (OHADA) such as Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Guinea, Guinea-Bissau, Mali, Niger, Republic of the Congo, Senegal and Togo on 1st January 2019 when they all reportedly adopted IFRS (IFRS Foundation, 2019). Although the above response seems to reflect the external pressure and influence of some regulatory international organizations like the International Monetary Fund and the World Bank, Inusah and Dwommor (2017) point out that most developing countries adopted IFRS to gain acceptance in the international market knowing fully well that they could not produce a legitimate set of Accounting Standards that meet the expectation of the international community.

However, a sensitive observation made by Okoye and Nwoye (2018) in a comparative study that appraised the quality of compliance upheld by adopting African countries with emphasis on Nigeria and Ghana showed that IFRS Financial Statements of public listed companies studied were not consistent in their compliance to IFRS minimum disclosure requirements and as a result were incomparable (cross border wise) to the extent of that inconsistency even among multinational companies listed in the continent's various Stock Markets/Exchanges.

Given this, it is pertinent to state that the need to also assess the faithful representation status of financial disclosures made in IFRS Financial Statements side by side with its compliance quality level cannot be overemphasized. This is more as the regenerated effort made towards assuring Investors and Users that the progress made so far by African nations towards achieving uniformity and comparability of Financial Statements (Okolie & Omoregie, 2014) across Africa and globally is explicitly complemented with the secure of transparency in financial disclosures (Lepădatu & Pîrnău, 2009) made per IFRS disclosure guidelines (KPMG, 2018). This has continued to raise serious observed concern and questions in regions repeatedly exposed to corporate scandals/failures on whether the adoption of IFRS readily enhances and secures transparency and accountability in corporate financial reporting of such jurisdictions. This is more as global economies have become more cautious and conscious of the enormous risk accrued to corporate liability in today's challenging International Capital Market.

2.3 Nigeria and IFRS Compliance

The adoption of IFRS by different national jurisdictions (Hope, Jin & Kang, 2006) appear to cut across several reasons ranging from possible production of Financial Statements that are based on globally accepted financial reporting practices when full 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).

According to Atu, Adeghe and Atu (2016), the importance and benefit that accrues to the adoption and implementation of IFRS in any jurisdiction need be weighed with the cost or challenges before taking such sensitive step. To these scholars, the first point of call whenever accounting issues of a nation is at stake should be the crafting and development of meaningful accounting system most suitable for the country rather than a rushed decision to adopt already structured International Accounting Standards (IASs) from developed countries. Their reasons have been that the idea of developed countries wanting to dominate the IASB structure and Standards setting process through strong lobbying and opposition need be considered thoughtfully, given its detrimental effect on developing countries. Suffice it to say that, although the views of Atu *et al*, (2016) mean well, history reveals that Accounting Standards setting in developing countries like Nigeria mostly mirrored the dictates of either the IASs issued by the defunct International Accounting Standards Committee (IASC) or the US GAAP.

Despite these threats/shortcomings facing reporting jurisdictions in developing countries in Africa, the attractive features of adopting IFRS such as enlarged accessibility to international Stock Exchanges for capital mobilization, the high tendencies of enlistment in international Capital Markets due to global acceptability of IFRS based Financial Statements, increased chances of commendable FDI inflows and the boost in the confidence of local and foreign investors on the investment environment of developing countries appear to overshadow the challenges earlier observed. Before

the adoption of IFRS in Nigeria on 1st January 2012 (being its transition date) with 31st December 2012 serving as the country's first reporting date of IFRS based Financial Statements, Edogbanya and Kamardin (2016) observed that the Company and Allied Matter Act (CAMA) 1990 was the legal and regulatory framework for accounting practice in Nigeria in respect of the preparation of the financial report. Aside from prescribed format and content of what a company's Financial Statement disclosures entail, it required that the Financial Statements of all corporate organizations comply with and adhere to Nigeria's old generally accepted accounting principles (GAAP), the Statement of Accounting Standards (SAS) which was then issued from time to time by the defunct Nigerian Accounting Standard Board (NASB) (Edogbanya & Kamardin, 2016). 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 a 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. The year 2013 was set out in the roadmap as the 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 & Iyoha, 2012). As at the end of 2019 reporting year, Nigerian corporate entities have mandatorily complied with IFRS disclosure guidelines in the preparation of its Financial Statements for eight (8) years (January 1st, 2012 – December 31st, 2019).

2.4 Ghana and IFRS Compliance

The Ghana National Accounting Standards Board (GNASB) was established by the Institute of Chartered Accountants of Ghana (ICAG), a professional Accounting regulatory body set up in 1963 by Act 170 of Parliament to develop, adopt, and publish Accounting Standards and to promote their acceptance. Despite been viewed as the yardstick for the existence of formal accounting in Ghana, it must be understood that the main legal framework for financial reporting and auditing for both private and public companies in Ghana is the Companies' Code of 1963 (Act 179) (Oheneba, Muhammad & Kamran, 2011). According to World Bank (2004), the Code does not deal with preparing Financial Statements under prescribed Standards such as IASs or Ghana National Accounting Standards even as some accounting requirements prescribed by the Code are incompatible with International Accounting Standards.

Before the adoption of IFRS in the country, Ghana financial reporting activities were duly regulated by relevant agencies established by law. The Securities Exchange Commission Ghana (SECG) and the Ghana Stock Exchange regulates financial reporting of all listed companies in Ghana in line with SECG financial reporting requirements, Bank of Ghana regulates financial reporting of listed banks and non-banking financial institutions in line with the Banking Law 1989 and Financial Institutions (Non-Banking) Law of 1993, the National Insurance Commission of Ghana regulates the financial reporting practices of insurance companies under the Insurance Law (1989) while the Unit Trust and Mutual Funds Regulations of 2001 regulated financial reporting of unit trusts and mutual funds in Ghana (World Bank, 2004).

Despite inconsistencies with the requirements of the Companies Code and the Listing Regulations, the Banking Law and Financial Institutions (non-banking) Law, aside from the Manual of Accounting for Banks and the Manual on Auditing of Banks, did not refer to the Standards to be applied by banks and other non-banking financial institutions in Ghana in the preparation of Financial Statements. The Listings Regulations equally had no requirements on which Standards listed companies in Ghana are expected to follow in the preparation and audit of annual Financial Statements. While Financial Statements of Insurers must comply with the requirements of the Insurance Law, the applicable accounting standards to be followed were not specified ((World Bank, 2004).

In 2007, precisely on January 1st, Ghana adopted and fully required the use of the International Financial Reporting Standards (IFRS) as the country's new national GAAP for corporate financial reporting. Inusah and Dwommor (2017) noted that the adoption of IFRS in Ghana was not only premised on the foreseen benefits of IFRS but also in response to the March 2006 recommendations of the Reports on Standards and Codes (ROSC) as issued by the World Bank. Oheneba, Muhammad and Kamran, (2011) lend a voice to this stressing that the International Federation of Accountants (IFAC) which Ghana is a member country, had also championed the implementations of IFRS, making it mandatory in 2005 for member nations to adopt.

Oheneba, Muhammad and Kamran, (2011) noted in their study that until the adoption of IFRS in Ghana, there was no equivalent Ghanaian National Accounting Standard (GNAS) for the following: IAS 19- Employee Benefit, IAS 32- Financial Instruments, Disclosure and Presentation, IAS 33- Earnings Per Share, IAS 34- Interim Financial Reporting, IAS 35- Discontinuing Operation, IAS 36- Impairment of Assets, IAS 37- Provision, Contingent Liabilities and Contingent Assets, IAS 38- Intangible Assets, IAS 39- Financial Instruments, Recognition and Measurement, and IAS 41- Agriculture. They argued that the GAS was outdated from inception since the ICAG had no clear legal mandate to set national Accounting Standards except Auditing Standards which later resulted in the formation of National Auditing Standards (NAS).

However, a 2014 World Bank Report on Observance of Standards and Codes in Ghana had revealed that some entities in Ghana, especially the Medium-sized firms, still maintained and prepared their financial reports in line with the guidelines of Ghana National Accountancy Standards (GNAS) instead of IFRS and/or IFRS for SMEs. This clearly shows that as of 2014, non-full mandatory compliance by some entities in Ghana

to IFRS and the IFRS for SMEs disclosure requirements was genuine and a challenge. Inusah and Dwommor (2017) in a study conducted also confirmed this stating that 7 years after the adoption of IFRS in Ghana (2007 – 2014), firms in Ghana as a nation were still facing some imminent challenges in achieving full compliance with IFRS in their annual financial reports preparation and presentations. It is worthy to note that before the adoption of IFRS in Ghana, the Ghana National Accounting Standards (GNAS) issued by the Ghana National Accounting Standard Board (GNASB) which was also a non-up-to-date reflection of guidelines of IASC's International Accounting Standards (IASs), was used (Abedan, Omane-Antwi & Oppong, 2016). As at 2019 reporting year, Ghana corporate entities have complied with IFRS disclosure guidelines in the preparation of its Financial Statements for thirteen (13) years (January 1st, 2007 – December 31st, 2019). Although World Bank Report of 2014 noted that the nature of compliance to IFRS in Ghana as at 2014 was not full compliance due to some entities' preference for the country's local Standard (GNAS), the country's regulatory body- GNASB had scheduled December 2015 as the deadline for the full adoption of IFRS by all Ghanaian companies during financial reporting.

2.5 Faithful Representation versus Transparency during Financial Reporting

Faithful representation is the second fundamental quality that makes accounting information useful for decision-making (Beest, Braam & Boelens, 2009). It depicts a situation whereby the numbers and descriptions are seen to represent what existed or financial event that happened during a given period. Thus, by faithful representation, the accounting numbers and descriptions are believed to agree with the resources or events that these numbers and descriptions purport to represent (IFRS, 2018).

As a means of fostering accountability towards achieving faithful representation during financial reporting, Lepădatu and Pîrnău (2009) defined transparency as the principle of creating an environment where information on existing condition, decision and action are made accessible, visible, and understandable to all market participants.

Accordingly, transparency as a qualitative characteristic of a good financial reporting system compels institutions and/or organisations, Managers, Accountants, active Stakeholders and other managerial employees of corporate organisations to acknowledge its uphold in entities as a responsibility and requisite towards justifying the faithful representation status of various corporate decisions and actions during a business year. This is more as faithful representation is considered a necessity in a corporate environment since some users of accounting information neither the time nor the expertise to evaluate the factual content of financial information presented in terms of its *completeness* (ensuring that all information necessary for faithful representation is provided), *neutrality* (ensuring that bias approaches are not employed in selecting information in favour of a given group of interest parties over another) and *free from material error* (the effort to keep financial reports free from error can only be achieved through multiple checking/verification of financial records presented). (Beest, Braam & Boelens, 2009).

On the long run, financial reporting practice that is full disclosure compliant is considered beneficial though some problems may be encountered in the short term. This opinion was also upheld by Lepădatu and Pîrnău (2009) who believed that the cost of the absence of transparency in the financial system of any corporate enterprises is ultimately higher than the cost of such enterprise being transparent in its financial reporting practices. MacCarthy (2017) stressed that whenever the Financial Statement is manipulated, such action creates disagreement between a company's financial performance and its related non-financial measures. Indeed, persuasive, enticing but incomplete and dishonest financial disclosures could be very costly and devastating in the long run. Statistics have shown that this cost US businesses about US\$600 billion annually (Wenfei, 2015). In Nigeria, the private and public sectors as of 2015 were believed to have lost over N3 trillion through such fraudulent means (Nwoye & Okoye, 2018).

MacCarthy (2017) noted that linkage could be established between the prevalence of financial distress among corporate organisations and their consequent indulgence in acts of fraudulent financial reporting. To Mohammadi and Nezhad (2015), the financial crisis witnessed between 1997 and 2000 at the global market, especially the likes of black September in 1997, the ENRON financial scandals in the United States and other European and American corporate scandals of 2000 led to the uproar for transparency and faithful representation in financial reporting process across the globe.

Issues prompting the dire need for transparency among listed public companies in Nigeria have also been observed. Right from 2002 – 2006 when Cadbury Nigeria Plc. was indicted for financial scandal to the time of financial distress in the Nigeria banking sector through 2008 to 2019. Edogbanya and Kamardin (2016) reported that the result has been the inclusion of transparency in Securities and Exchange Commission (SEC) of Nigeria's framework of best practice in 2011.

This implies that commendable and ethical observances of transparency and faithful representation practices in corporate organisations, no doubt, improve the economic decision of other agents in and outside the organization, and thus considered a necessity in corporate enterprises for the concept of accountability to thrive meaningfully with little or no managerial obstruction. Mohammadi and Nezhad (2015) lean strongly on the above view contending that transparency is one of the most important qualitative characteristics or factors influencing companies' attractiveness to Investors.

Though transparency and faithful representation do not change the nature of risks inherent in financial reporting systems (Lepădatu & Pîrnău, 2009) of public listed entities, it observance during financial reporting by corporate organisations could help reduce the risk of financial distress and bankruptcy among corporate enterprises to the barest minimum. To this end, Edogbanya and Kamardin, (2016) argued on that corporate transparency is highly associated with corporate performance and company with better corporate governance have a very high standard of disclosure of material fact and transparency of the firm.

2.6 Theoretical Framework

2.6.1 The B & B Model

The consequences of non-transparent or poor financial disclosure are experienced in everyday life but often without making the necessary connections to their causes.

This study thus adopted and considered the relative performance of two competing models and financial ratios- the Benford's law and the Beneish Predictive ratios herein referred to as the B & B models.

2.6.1.1 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/end pages (Asllani & Naco, 2014).

Frank Benford, a Physicist, In 1938, 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 & Naco, 2014).

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, etc., 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. 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 & Lamcja, 2016).

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

$$P(d) = \log_{10}(1 + 1/d)$$

$$\text{First Digits numbers: } (D_1 = d_1) = \log(1 + 1/d_1); d_1 = (1, 2, 3 \dots 9)$$

$$\text{The second digit number: } (D_2 = d_2) = \log(1 + (1/d_1 d_2)); d_2 = (1, 2, 3, \dots 0).$$

$$\text{First Two Digit numbers: } (D_1 D_2 = d_1 d_2) = \log(1 + (1/d_1 d_2))$$

$$(D_1 = d_2 / D_1 = d_2) = \log(1 + (1/d_1 d_2)) / \log(1 + (1/d_1))$$

Where:

D = number of 1, 2, 3, ..., 9,

P = probability

D₁ = first digit of a number

D₂ = second digit of a number

Benchmark:

Benford Expected Frequency > Observed Frequency = Reasonable digit Transparency exists in disclosed financial data, otherwise Questionable digit Transparency is the case.

This principle is most suitable for timely spotting of irregularities in Financial Statements by Internal Auditors, Forensic Accountants, and External Auditors as well as discrete exposure of possible disclosure errors, financial disclosures alterations or other anomalies in revenue/turnover, accounts payable, fixed asset values, employee expenses, income tax forms, claims payments and other disbursements.

2.6.2.2 The Beneish Model

These essential financial ratios were first developed in 1997 as 5-factored variables by Professor Beneish but later upgraded to 8-predictive variables in 1999 (Beneish, 1999; Nwoye, Okoye & Oraka, 2013), to enable professional Accountants in Academics and 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 individually 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 scores or benchmark that could readily help any concerned professional Accountant or Accounting Academics predict number anomalies 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 = $-4.840 + 0.920 \times \text{DSRI} + 0.528 \times \text{GMI} + 0.404 \times \text{AQ} + 0.892 \times \text{SGI} + 0.115 \times \text{DEPI} - 0.172 \times \text{SGAI} - 0.327 \times \text{LVGI} + 4.697 \times \text{TATA}$

- a) *Days Receivable Index (DSRI)* = $(\text{Net Receivables}_t / \text{Sales}_t) / \text{Net Receivables}_{t-1} / \text{Sales}_{t-1}$.
- b) *Gross Margin Index (GMI)* = $[(\text{Sales}_{t-1} - \text{COGS}_{t-1}) / \text{Sales}_{t-1}] / [(\text{Sales}_t - \text{COGS}_t) / \text{Sales}_t]$.
- c) *Asset Quality Index (AQI)* = $[1 - (\text{Current Assets}_t + \text{PP\&E}_t + \text{Securities}_t) / \text{Total Assets}_t] / [1 - ((\text{Current Assets}_{t-1} + \text{PP\&E}_{t-1} + \text{Securities}_{t-1}) / \text{Total Assets}_{t-1})]$
- d) *Sales Growth Index (SGI)* = $\text{Sales}_t / \text{Sales}_{t-1}$.
- e) *Depreciation Index (DEPI)* = $(\text{Depreciation}_{t-1} / (\text{PP\&E}_{t-1} + \text{Depreciation}_{t-1})) / (\text{Depreciation}_t / (\text{PP\&E}_t + \text{Depreciation}_t))$.
- f) *SG&A Expense Index (SGAI)* = $(\text{SG\&A Expense}_t / \text{Sales}_t) / (\text{SG\&A Expense}_{t-1} / \text{Sales}_{t-1})$.
- g) *Leverage index (LVGI)* = $[(\text{Current Liabilities}_t + \text{Total Long Term Debt}_t) / \text{Total Assets}_t] / [(\text{Current Liabilities}_{t-1} + \text{Total Long Term Debt}_{t-1}) / \text{Total Assets}_{t-1}]$.
- h) *Total Accruals to Total Assets (TATA)* = $(\text{Income from Continuing Operations}_t - \text{Cash Flows from Operations}_t) / \text{Total Assets}_t$.

Benchmarks:

- i. *General Rule: MScore > -2.22 (that is, negative Nos. smaller than -2.22 or any positive Nos.) = tendencies of unfaithful representation exist. MScore < -2.22 (that is, negative Nos. higher than -2.22) = tendencies of faithful representation level exist.*
- ii. *DSRI > 1.465 = Possible inflation of revenue data, long stretching of credit collection period to boost more turnover to recognize revenue earlier enough in the current year's financial record even though cash for the said sales is recoverable the following year. (≤ 1.031 as no financial data falsification region).*
- iii. *GMI > 1.193 = Signifies that Gross margin of the company is deteriorating and the 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).*
- iv. *AQI > 1.254 = Tendencies of capitalizing and deferring costs that should have been expensed. (≤ 1.039 as no financial data falsification region)*
- v. *SGI > 1.607 = firms under possible pressure to alter figures in her favour to keep up appearance in the competitive market (≤ 1.134 as no financial data falsification region).*
- vi. *TATA > 0.031 = Accruals possibly used to engage in financial data alteration. (≤ 0.018 as no financial data falsification region).*
- vii. *DEPI > 1.077 = Tendencies of Assets being depreciated at a slower rate of depreciation to boost earnings. Thus, the company could be making changes in her accounting policies by embracing revenue friendly depreciation policies (< 1.001 as no financial data falsification region).*
- viii. *SGAI ≥ 1.041 = Company pushed into possible financial data manipulation to defer costs and expenses and consequently improve her profitability picture. (< 1.001 as no financial data falsification region).*
- ix. *LVGI > 1.111 = 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 breach. (< 1.037 as no financial data falsification region).*

Upon proper application of the Benford's Law and the discovery of possible distortions in the financial disclosures of the company, further investigation should be made on the affected financial disclosures by deploying effective anti-financial disclosures 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 manipulation.

Although the Bedford's Law maintains the sole emphasis on ascertaining the integrity of frequency distribution of digits of IFRS financial disclosures, the Beneish Model has the capacity not only to assess the faithful representation status of amounts disclosed in these companies Financial Statements but equally points to areas or classifications in the Financial Statements that may have been unfaithful disclosed or represented in the financial reports evaluated.

Given these, the study anchored firmly on both models herein represented as the B & B Model with Beneish Model serving as a complement to the application of the Bedford's Law during audit trail performance and forensic investigation.

2.7. Prior Studies

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 conduct of empirical research that could have evaluated analytically, the value relevance of disclosed figures of IFRS Financial Statements of undisclosed listed Nigerian companies was enabled in the study, the researcher ended up producing sensitive findings based on extant reviews.

Palea (2013) in his extant review study equally found out that adopting IAS/IFRS improves the quality of financial reporting and increases its usefulness to investors. Afiangbe, Eromonsele and Okoh (2017) also reported that full compliance of 10 Oil and Gas listed public listed companies in Nigeria (as at 2014 for the years 2010 – 2014) with disclosure requirements of 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.

Agyei-Mensah (2013) who comparatively looked into the quality of pre (2006 financial year) and post (2008 financial year) IFRS financial reports in Ghana, discovered that the quality of financial reports has improved significantly in Ghana after the adoption of IFRSs. Boateng, Arhin, and Afful (2014) in their research which exploratory assessed eighteen (18) professional Accountants study revealed that IFRS improved the access of local companies to international markets. It was also observed that the local firms in Ghana gained more credibility, transparency, acceptance and consolidation following its adoption.

Umobong and Akani (2015) adopted a rather investigative approach to their research. After examining 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, 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 shown any expected results.

Mehta and Bhavani (2017) chose to embrace a more robust approach than Umobong and Akani. Adopting the Beneish Model, Benford's law and the Altman Z-Score model jointly in the evaluation of Toshiba, Japan's financial reports for the years 2008 – 2014, they discovered 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.

Although Aris (2016) in his empirical assessment of PT Pertamina (Indonesia)'s 2010 – 2015 financial reports found out that Benford's law and the Beneish model's score were biased such that the two digital analytical ratios were deployed as tools in predicting the risk of bankruptcy instead of material misstatements. Das (2017) while using Benford's law first, second, and first two digits analysis frame found out after examining financial accounting data of 34,346 firm years of selected Indian companies that Benford's law test is useful in the hands of Auditors to unveil data anomalies before auditing. The investigative research findings of Tota, Aliaj and Lamçja (2016) on accounting data of some Albanian cases also concur to this indicating 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, Othman, Arif, Abdul Malek and Omar (2013) also made a similar discovery as those of Mehta and Bhavani (2017) in their extant review study. According to their findings, joint use of Benford's Law and Beneish Model techniques will allow users of accounting data assist Auditors and Investigators in finding anomalies which can be translated into fraud occurrences by organisations. The study, however, failed to experiment with their views empirically.

2.8 Gap in the Literature

Evidence from the above empirical reviews shows that majority of these studies concentrated their research effort on the effect or impact of IFRS on disclosure quality or Financial Statements quality with little effort made at ascertaining whether the transparency status of public companies' Financial Statements in Nigeria and Ghana has improved since their adoption and implementation of IFRS.

A few others such as Mehta and Bhavani (2017), Aris, Othman, Arif, Abdul Malek and Omar (2013), Tota, Aliaj and Lamçja (2016), Aris (2016), MacCarthy (2017) and Das (2017) who either adopted the Benford's Law, Altman model or the Beneish Model or jointly applied a combination of any two of these three models, ended up concentrating their investigative effort on financial records other than IFRS Financial Statements. More sensitive is the fact that a number of these studies who adopted two models for their investigation purpose eventually ended up anchoring their findings on one model. Also, it has been observed that some existing studies often fail to establish realistic bases for the adoption and joint application of more than one model in their research investigations. It is against this backdrop that this study is envisaged to deploy both models in such a way that the strength of one model complements the weakness of the other model most effectively.

3. METHODOLOGY

The Casual Comparative research design also known as the Ex-Post Facto research design was adopted in this study. This is because, casual comparative research design permits the study of event of interest that has naturally occurred or was already manipulated earlier during its occurrence amidst no existent vacuum for manipulation of public-accessible post-event data by interest parties, Users or Researchers.

Nigeria and Ghana, both from West Africa, served as the area of study. Coincidentally, both countries were the very first two countries in West Africa to adopt IFRS as a replacement to its existing local Standards (Ghana National Accounting Standards and the Statement of Accounting Standards in Nigeria) though Sierra Leone had permitted IFRS for SMEs in 2009 amidst provisional conditions for public companies' application of full IFRS. The choice of area of study is to enable the research to achieve a more robust result towards appreciating the extent of transparency obtainable in cross-border IFRS financial reporting practices among countries in Africa. As a result, the IFRS financial reports of forty-four (44) public listed manufacturing companies (22 manufacturing companies each from Nigeria and Ghana) were evaluated in this study. Emphasis was on both countries first set of IFRS Financial Statements in five (5) years from the time of IFRS adoption (1st January 2007 in Ghana and 1st January 2012 in Nigeria). Thus, IFRS compliant Annual reports for the years 2007 – 2011 (*Ghana*) and 2012 – 2016 (*Nigeria*) were duly employed for the B & B model.

Outcomes of the model analyses were subjected to a further test of the Chi-Square, Multiple Regression and Mann Whitney U test statistical tools using the Minitab version 16 and SPSS version 22 statistical software. Unfaithful Representations served as a proxy for Reasonable Transparency (the dependent variable) while the Benford's Law 9 digits and the Beneish Model 8 Predictive Ratios were proxies for the independent variable (B & B Model).

4. DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Hypothesis One

H₁: Benford's Law is not effective in evaluating the faithful representational quality of financial disclosures of Nigerian and Ghanaian publicly listed manufacturing companies.

Given below is the outcome of the analysis carried out:

Nigeria		
N		320.606
DF		21
Chi-Sq		218.377
P-Value		0.000
Ghana		
N		254.343
DF		21
Chi-Sq		85.5325
P-Value		0.000

Source: Minitab Version 16

4.1.1 Discussion and Interpretation

Chi-square table above indicates that p-value (0.000) of the test conducted on Benford's law distribution frequency of IFRS financial disclosures of twenty-two (22) manufacturing companies studied each in Nigeria and Ghana is statistically significant ($p < 0.05$) for both countries.

Also, Chi-square calculated values (X^2_{cal}) of 218.377 for Nigeria and 85.5325 for Ghana are both greater than the Chi-square table value (X^2_{tab}) of 32.70 (looking up the degree of freedom 21 against 0.05 per cent significant level in Chi-square table).

4.1.1.1 Decision

Given the decision rule- *accept alternate hypothesis if X^2_{cal} is greater ($>$) X^2_{tab} otherwise reject, and accept the null hypothesis*, we accept the alternate hypothesis since the X^2_{cal} (218.377 for Nigeria and 85.5325 for Ghana) are greater than X^2_{tab} (32.70). This means that Benford's Law is effective in evaluating the faithful representation quality of financial disclosures of Nigerian and Ghanaian public listed manufacturing companies.

A further closer look at the outcome of Benford's law analyses revealed that out of 198 *individual observations* (396 observations in all) made from five years IFRS Financial Statements of selected manufacturing companies in Nigeria and Ghana using Benford's law model, 90 and 82 tendencies of “questionable digit transparency” of first digits to IFRS financial disclosures were observed while 108 and 116 situations of “reasonable digit transparency” were confirmed in both countries studied.

For while digits 3, 1, 5, 8, 6, 2, 4, and 9 as first digits of financial disclosures made in the IFRS Financial Statements evaluated all recorded higher tendencies of questionable digit disclosures in Nigeria, digits 1, 2, 3, 4, 5, 8, 7, 6 and 9 signalled higher tendencies of questionable digit disclosures among selected Ghanaian manufacturing companies studied.

This also goes to show that, although more financial disclosures of IFRS Financial Statements of manufacturing companies in Nigeria and Ghana portrayed tendencies of reasonable digit transparency during the years covered in their respective IFRS reporting regimes, effort must be intensified by professional Accountants, External Auditors, Forensic Accountants, Analysts, and Anti Financial Crime Regulatory Agencies at ensuring that tendencies of questionable disclosures in the IFRS Financial Statements of manufacturing companies in both countries do not exceed 5% risk level.

4.2 Hypothesis Two

H₁: Benford's law digital analyses implications in the post IFRS reporting periods of Nigeria and Ghana do not differ significantly.

The result below is a clear representation of the analysis carried out:

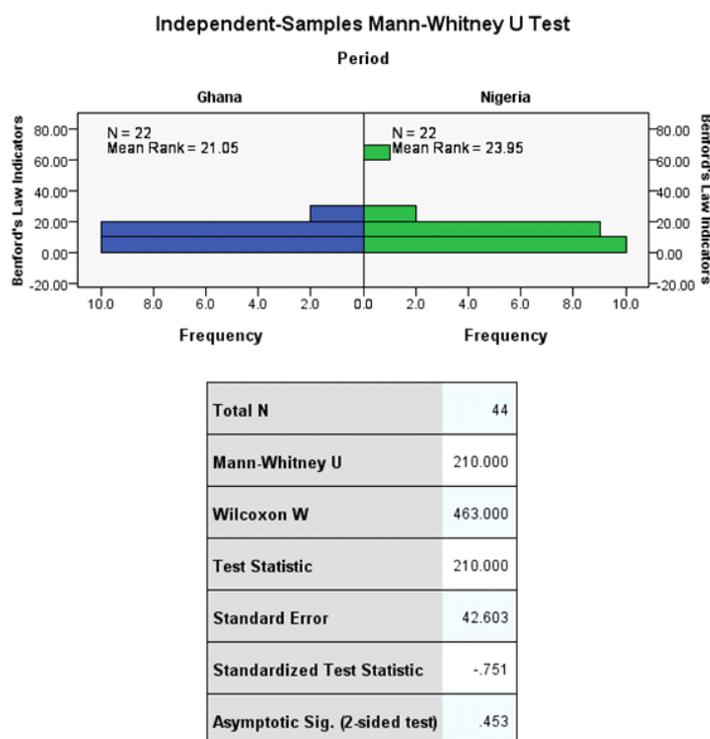


Figure 1: Mann Whitney U test result to hypothesis six

The above chart and figure 1 shows that the probability value (p-value) = .453 is greater than 0.05. Besides, the Mean Rank for both countries does not differ significantly. Nigeria ranked 23.95 while that of Ghana was 21.05.

4.2.1 Discussion and Interpretation

The outcome of the above analysis shows that the implications of the Benford's law digital analyses conducted on the financial disclosures of post-IFRS reporting regimes of Nigeria and Ghana do not differ significantly. This is confirmed in the Mean Score Ranks of both countries where Nigeria ranked 23.95 and Ghana 21.05 (approximately 13.8% difference in the deviation observed in both countries' IFRS financial disclosures frequency distribution for the years 2007–2011 in Ghana and 2012–2016 in Nigeria).

This was further confirmed where the Mean Absolute Deviation (MAD), obtained through the Benford's Law analyses indicates that out of 198 individual/separate observations in both countries, higher deviation outcomes were recorded in Nigeria (90 tendencies observed) implying higher tendencies of a human intervention/possible financial disclosures manipulation in the assessed IFRS Financial Statements of selected Nigerian manufacturing companies than obtainable among Ghanaian manufacturing companies studied where 82 of similar tendencies were recorded.

This resolve was also based on the belief that the higher the MAD value obtained, the larger the difference between the actual and expected values, thus pointing to higher chances of unfaithful representation of financial disclosures in Financial Statement(s). Moreso, these observed deviations equally signal the fact that affected financial disclosures in the selected IFRS Financial Statements of Nigeria and Ghana are not naturally occurring due to their failure to follow and/or their overall non-conformity to Bedford’s Law distribution in the first digit test.

Notwithstanding these fears, evidence Benford's Law investigations show that only 45.4% and 41.4% of such financial disclosures were red-flagged in Nigeria and Ghana respectively. This implies that the level of good corporate governance upheld in both countries by its selected manufacturing companies during IFRS Financial Statements preparation and presentation is above 51%. Though this is considered an attractive feat in some quarters, prevalence of bad corporate governance practices above 40% is not in itself a haven and should be considered a direct threat to the Capital market, total market capitalization and the economy of the affected nation(s).

4.3 Hypothesis Three

H₂: Beneish Ratios are not relevant complementary evaluative tools in evaluating the faithful representation of IFRS financial disclosures of Nigerian and Ghanaian manufacturing companies.

The results are shown below:

Table 3: Model Summary for Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998 ^a	.996	.993	4.222206534000001

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

Table 4: ANOVA^a for Nigeria

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	52720.724	8	6590.091	369.668	.000 ^b
	Residual	231.751	13	17.827		
	Total	52952.475	21			

a. Dependent Variable: MSCORE (NY)

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

Table 5: Model Summary for Ghana

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867 ^a	.765	.741	2.098583521900000

a. Predictors: (Constant), TATA (R8), AQI (R3), SGI(R4), DSRI(R1), DEPI (R5), SGAI(R6), GMI (R2), LVGI (R7)

Table 6: ANOVA^a for Ghana

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25620.000	8	3202.05	328.000	.000 ^b
	Residual	98.117	13	7.547		
	Total	25718.117	21			

a. Dependent Variable: MSCORE (GY)

b. Predictors: (Constant), TATA (R8), AQI (R3), SGI(R4), DSRI(R1), DEPI (R5), SGAI(R6), GMI (R2), LVGI (R7)

Pooled result for Nigeria and Ghana is given below:

Table 7: Model Summary for Nigeria and Ghana

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887 ^a	.833	.796	2.734242919000000

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

Table 8: ANOVA^a for Nigeria and Ghana

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2638902448.000	8	329862806.000	44.122	.000 ^b
	Residual	254.187	34	7.476		
	Total	2638902448.000	42			

a. Dependent Variable: MSCORE (NY)

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

4.3.1 Discussion and Interpretation

Results from Tables 3 and 5-Individual model summaries for Nigeria and Ghana indicate that R² which measured the overall goodness fit of the regression model for Nigeria and Ghana recorded values of .996 and .765 (adjusted R² were .993 and .741 for both countries) attesting to the fit for use capacity of the models in testing this hypothesis. 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 99.3% and 76.5% variations in the dependent variable (Financial disclosures faithful representation). A look at their respective ANOVA tables (Tables 4 and 6) depicts that the models are statistically significant ($p = 0.000 < 0.005$).

Pooled result from Table 7- pooled Model summary of Nigeria and Ghana as a single linear regression show that the R^2 recorded values of .833 (adjusted R^2 was .796) equally attests to the fitness of the model for use in this study. The outcome of their relevant ANOVA table (Table 8) also shows that the p-value of .000 in both countries is less than 0.05. This implies that placing absolute reliance on the outcome of the individual and pooled regression models for use is statistically okay.

However, a Chow test was further conducted to help substantiate if the two separate linear regressions for Nigeria and Ghana can truly be represented as one single pooled linear regression as depicted in Tables 7 and 8.

The result of the Chow test is given below:

$$F = [(a-b)p] / [b/(n-2p)]$$
$$F\text{-critical value} = 22.52422068$$

Looking up 34 under 8 in the F-table distribution at 5% significance level, the outcome reveals that F-table value obtained is 2.23. Thus, when *F-critical value* is greater than *F-table value*, the null hypothesis which states that "there is no breakpoint (different data set can be represented as one single linear regression)" is rejected and the alternate hypothesis accepted. This implies that our decision will be based on the individual outcome of Tables 4 and 6 and not on the F-cal indicator of Table 8.

4.3.1.1 Decision

Since calculated F-critical values for Nigeria and Ghana (369.668 and 32.8.000) are greater than the F-table value of 2.23, we reject the null hypothesis and accept the alternate. This means that Beneish Ratios are relevant complement in evaluating the faithful representation of IFRS financial disclosures of Nigerian and Ghanaian manufacturing companies.

We further substantiated the above finding from the faithful representation scores (MScores) outcome of the Beneish model analysis where out of 110 individual observations made in Nigeria and Ghana (220 observations in all), 54 tendencies of unfaithful representation was identified in Nigeria whilst 55 similar observations were made among the twenty-two Ghanaian manufacturing companies studied. On yearly basis, Ghana and Nigeria recorded their highest tendencies of unfaithful representation in IFRS Financial Statements in their very first year of IFRS implementation- 13 out of 22 IFRS Financial Statements presented in the year 2008 in Ghana were red-flagged for manipulation tendencies which rate peaked at 59% while 14 Nigerian manufacturing companies out of 22 companies evaluated had it's 2012 IFRS Financial Statements red-flagged after subjecting its financial disclosures to assessment using the Beneish ratios, thus exposing the country to about 64% manipulation tendencies rate. It should be recalled that even though Ghana had earlier earmarked all its public entities to adopt IFRS for Financial Statement preparation and presentation in 2007, majority of its public listed companies implemented the IFRS disclosure guidelines in the year 2008. Furthermore, Indicators for years 2007, 2009, 2010, and 2011 in Ghana explicitly

revealed that out of 22 IFRS Financial Statements evaluated in each of the affected years, 10, 9, 12 and 11 IFRS Financial Statements were red-flagged for tendencies of unfaithful representation at 45.5%, 41%, 55%, and 50% manipulation tendencies rate respectively. Similarly, in Nigeria, indicators for the years 2013, 2014, 2015, and 2016 showed that out of 22 IFRS Financial Statements evaluated, 8, 10, 12, and 10 IFRS Financial Statements were red-flagged for tendencies of unfaithful representation at 36%, 50%, 55%, and 45.5% manipulation tendencies rate respectively. The above statistics, though alarming, readily calls for effective deployment of result-oriented technical checks models as the B & B Models during interim and final audit conduct as well as the assessment of corporate entities' internal control system quality towards upholding good corporate governance practices during preparation and presentation of financial reports in line IFRS disclosure requirements.

At the Beneish model ratios level, the Asset Quality Index (AQI) made the highest contribution at predicting tendencies of unfaithful representation in the IFRS Financial Statements evaluated in Nigeria and Ghana. This was followed by the Day's Sales Receivable Index (DSRI), Sales General Administrative Expenses Index (SGAI), Growth Margin Index (GMI), and the Sales Growth Index (SGI). All these equally threw up sensitive red flags from the evaluated post-IFRS financial disclosures of the public companies covered in both countries.

5. CONCLUSION AND RECOMMENDATIONS

Because of the findings made in this study, it is pertinent to conclude that a 100% reasonable transparency is not usually attainable in the accounting process of any well-established corporate organization though the commendable and acceptable level of transparency could be upheld. This is probably 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, thus leading to the pursuit of unfaithful representations during financial reporting.

It is therefore recommended that Professional Accountants, Forensic Auditors, and Analysts in Ghana and Nigeria embrace the Benford's law towards reducing questionable financial digit disclosures among its manufacturing companies. It is also recommended that close supervisory/evaluative attention be given by relevant regulatory bodies in Nigeria and Ghana to issues of undue capitalization of costs and expenses that should have been expensed (AQI), exploitative use of earnings friendly depreciation methods (DEPI), undue deferment of costs from loss period when they were duly incurred to profitable latter periods (SGAI), and the earlier recognition of turnover by companies even before it has been earned or the possible inflation of the same (DSRI) to maintain a big performance face in the Capital market.

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