EFFECTIVE DEPLOY OF DIGITAL FORENSIC TECHNIQUES AND THE SUSTENANCE OF MATERIAL MISSTATEMENT-FREE FINANCIAL REPORTING IN NIGERIA

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Abstract

Amid stiff competition currently playing out at the international capital market in response to unfolding oil price crash at the international oil market, high technological advancement and possible global economic recession with far reaching consequences on businesses, the quality of financial reporting across the globe despite due compliance with disclosure guidelines of the International Financial Reporting Standards (IFRS) in many reporting jurisdictions across the globe may once again witness undue exposures to the rough handles of management executives of corporate organizations. In bid to proactively forestall feared speculations among terrified Investors whose value of investment dwindles on daily basis, there is urgent need for professional Accountants such as Internal Auditors and Forensic Accountants to upgrade digitally on their existing forensic accounting skills so as to be able to ease effectively, the increasing tension in the corporate financial reporting environment. To this end, the study intends to determine whether the application of forensic digital techniques effectively predicts tendencies of material misstatement in pre and post IFRS financial regimes in Nigeria. Being a secondary data wholly sourced research, a total of 50 manufacturing companies in Nigeria were purposively sampled with pre and post IFRS annual reports for the years 2006 – 2016 assessed using digital forensic technique such as Probit Model e-enabled spreadsheet. Relevant hypotheses were tested using Multiple Regression Analytical tool and the Mann Whitney U test. Result of the analyses showed that appropriate application of digital forensic technique deployed effectively predicts tendencies of material misstatement in the pre and post IFRS Financial Statements of selected manufacturing companies sampled in Nigeria. This sensitive observation readily indicates that the attainment of material misstatement free financial reporting atmosphere in any corporate environment goes beyond entities sound compliance to prevailing regulatory disclosure guidelines. It was recommended that timely appropriate steps be taken for the establishment of solid digital infrastructures in developing countries like Nigeria towards

ensuring that the promotion of transparency and faithful representation of disclosed financial information are not grossly undermined in the near future.

Key Words: Digital Forensic Techniques, Forensic Accountants, IFRS, Material Misstatement

JEL Classification: M41

1. INTRODUCTION

The rate of innovation in new technology is expanding daily globally. With increased enroll into the use of technology in corporate organizations and rapid changes in technology that currently increases advocate for electronic financial reporting practices among corporate organizations, Mushtaque, Ahsan and Umer (2015) noted that digital forensic process is also advancing into new ways. This development unleashes tremendous pressure on existing corporate and non-corporate organizations to align its technological infrastructures with this dynamics in order to meet foreseeable and emerging challenges that would help it conduct successful processes underlying forensic investigations while attaining maximum and desired benefits derivable from it. Today, modern organized financial crimes as internet fraud, e-hacking of corporate and customers' financial confidential, fraudulent intersection and diversification of e-transfers, money laundry, embezzlement of funds et cetera have become so common in Nigeria that it thrives unabated across all sectors. Commendable boost in technology and state of art in business operations may have compounded issues in this regard.

This is due to the fact that as information technology relies heavily and works around financial and non-financial information (Mushtaque, Ahsan & Umer, 2015) of enterprises, it becomes necessary to protect and secure such financial and non-financial information of entities by ensuring that unauthorized persons do not get access towards ensuring that such information retain their originality with its integrity and confidentiality intact. The public sector of the Nigerian economy is not equally spared of this. Okoye and Gbegi (2013) observed that government spending has remained a big business of great enormity in recent times with bias transparency. The Legislative Arm of government otherwise known as Law Makers who are in statutory position as checks to these excesses are, no doubt, victims of this menace that has culminated to complexity of fraudulent e-transfers among public office holders, money laundering and embezzlement of public funds. Inadequate implementation of digital economy in Nigeria has worsened the situation, leaving professionals Accountants who are mainly paper-based forensic investigators at the mercy of the perpetrators. Although public Officers and employees that manage public sector financial activities are required to render adequate accounts of their activities to the public (Okoye and Gbegi, 2013), the reverse is usually the case as partisan politics and loyalty has become an escape door for most perpetrators deserving arrest, investigation, and prosecution.

To the Association of Certified Fraud Examiners (ACFE), Financial Statement fraud (whether *electronically or electronically presented)* is an intentional, deliberate misstatement or omission of material facts that could cause a user to change or alter his or her judgment or decision. This entails that digital skills which comprises technology skills and other business skills are quite suitable for building corporate enterprise. This is more as an Internal Auditor's possession of adequate digital literacy readily enhances timely adoption and use of digital forensics products and related services in the scrutiny of large volume of corporate entities' financial records on daily basis. This move equally enhances organizations' existing proactive but fraud mitigating measures that are in place in a company. Although Internal audit employees, staff with professional statistical analysis skills, and anti-graft agencies in Nigeria such as the Economic Financial Crime Commission (EFCC) and the Independent Corrupt Practices other related offence Commission (ICPC) are already been exposed to some digital forensic investigative tools relevant to their office, the prevalence of awkward digital infrastructures in Nigeria grossly undermine their performance and consequent deterrence of financial crimes in the country.

Indeed, fraud and material misstatement are a major challenge to public listed companies such that the integrity of the Nigeria Accounting profession at a point in the nation's corporate financial reporting history was thud in the mud as a result. The consequence was that the reputation of many giant Audit firms in Nigeria (Nwoye, Okoye and Oraka, 2013) suffered serious setback. The implication was that Investors taste for Internal and External Auditors was relaxed insatiably leading to a progressive search for a more rigid and formidable expertise with undivided interest in curtailing possible management excesses with damaging financial consequences on the enterprise. This was the very beginning of Forensic Accounting practice.

Accordingly, Professional Accounting bodies in Nigeria such as the Institute of Chartered Accountants of Nigeria (ICAN) and the Association of National Accountants of Nigeria (ANAN) are equally relentless in their production of independent professional Accountants of unique specialty otherwise recognized as Forensic Accountants. These professionals are believed to possess specialized skills (digital forensic skills inclusive) capable of unraveling and curtailing incidence of fraud, material misstatement and other related electronic and non-electronic economic financial crimes in the private and public sectors of any economy. However, it is worthy to note that the development of Forensic accounting practice and the implementation of a reliable digital economy are rapidly growing in Nigeria.

In that same vein, ISA 450 points out that Auditors are expected to evaluate whether the Financial Statements as a whole are free of material misstatement though the Management of corporate organizations take responsibility for adjusting the affected sections of Financial Statements to correct such observed material misstatements. The above requirement of ISA No. 450 was also confirmed by ISA 250 and the Statement of Auditing Standard (SAS) No. 99 "*Consideration of Fraud*

in a Financial Statement Audit" that the Auditor is responsible for obtaining reasonable assurance (*not absolute assurance*) that the Financial Statement taken as a whole is free from material misstatement, whether caused by fraud or error.

In the face of unprecedented but dynamic advancement in the deployment of technology in financial accounting and financial reporting practices across the globe (Nigeria not being an exception), it would be reasonable to align professionally with the position of ISA 450 that 'the Auditor cannot simply assume that a misstatement is an isolated occurrence. There is need for substantial evidence (*beyond reasonable doubt*) to show that other misstatements may exist especially where the Auditor believes that misstatement might exist in the financial records of the corporate organization due to observed lapses in internal controls or as a result of inappropriate assumptions relied on or valuation methods widely applied by the entity.' Thus, the non-application of digital forensic skills in Internal Audit Units of corporate organizations amid progressive changes in the adoption of technology in financial reporting processes globally is considered harmful to the solvency and going concern position of such enterprises in Nigeria.

Scandalous events that trailed the fall of expatriate firms as Enron, WorldCom, Adelphia, Tyco, and Nigeria corporate banks as AfriBank, Bank PHB, FinBank, Skye Bank, Intercontinental Bank and Diamond Bank, all mirrored this path. Failure of some public entities in the financial sector of Nigeria to put commendable digital checks in place as they strived to meet the Central Bank of Nigeria (CBN)'s uprising regulatory measures/responses to envisaging challenges contending with the financial sector in Nigeria notably exposes the likely magnitude of decadence and inefficiencies prevalent in the operations of financial institutions. As far back as 1998 and early 2000s, Commercial banks such as Abacus Merchant Bank Ltd (in 1998), ABC Merchant Bank Ltd (in 1998), African Express Bank Ltd (in 2006), Allied Bank of Nigeria (in 1998), Allstates Trust Bank Plc (in 1998), Alpha Merchant Bank (in 1994), Amicable Bank of Nigeria Plc (in 1998), Assurance Bank of Nigeria Plc (in 2006), Century Merchant Bank (in 1998), City Express Bank Plc (in 2006), Commerce Bank Plc (in 1998), Commercial Trust Bank Ltd (in 1998), Continental Merchant Bank Ltd (in 1998), Cooperative and Commerce Bank Plc (in 1998), Credit Bank Nigeria Ltd (in 1998)m Crown Merchant Bank Ltd (in 1998), Great Merchant Bank Ltd (in 1998), Group Merchant Bank Ltd (in 1998), Hallmark Bank Plc (in 2006), Gulf Bank Ltd (in 2006), Highland Bank of Nigeria Plc (in 1998), ICON Ltd (Merchant Bankers) (in 1998), Ivory Merchant Bank Ltd (in 2000), Kapital Merchant Bank Ltd (in 1994), Lead Bank Plc (in 2006), Lobi Bank of Nigeria Ltd (in 1998), Mercentile Bank of Nigeria Plc (in 1998), Merchant Bank of Africa Ltd (in 1998), Metropolitan Bank Ltd (in 2006), Nigeria Merchant Bank Ltd (in 1998), North South Bank Nigeria Plc (in 1998), Pan African Bank Ltd (in 1998), Pinnacle Commercial Bank Ltd (in 1998), Premier Commercial Bank Ltd (in 2000), Prime Merchant Bank Ltd (in 1998), Progress Bank Ltd (in 1998), Royal Merchant Bank Ltd (in 1998), Trade Bank Plc (in 2006), Republic Bank Ltd (in 1995), Rims Merchant Bank Ltd (in 2000), Victory Merchant Bank Ltd (in 1998), Eagle Bank Plc

(in 2006), United Commercial Bank Ltd (in 1994), Liberty Bank Plc (in 2006) et cetera got forcefully liquidated by the Nigerian Deposit Insurance Commission (NDIC) in full compliance to court orders. The after-effect of these corporate failures still hunts after the investment market in Nigeria by way of loss of corporate reputation, loss of investors' confidence in published financial reports and decreased staff motivation, declining business relations. Thus, employing digital forensic accounting investigative approach(es) in this regard entails that ICT user friendly attitude and professional skepticism will be essentially upheld towards determining whether such records of events available and accessible by Internal Auditors, External Auditors and Forensic Accountants add up or not.

This also explains why forensic accounting activities, according to Paul (2003), are considered much more time consuming and can be significantly more expensive than a regular financial audit. And as a result diversionary attitude of global businesses to electronic businesses, electronic transactions and electronic financial reporting, Okunbor and Obaretin (2010) cited in Ehioghiren and Atu (2016) concluded that the spate of corporate failures have placed greater responsibility on professional Forensic Accountants to equip themselves with digital forensic investigative skills alongside other requisite skills capable of enhancing their investigative ability to identify visible indicators of poor corporate governance, mismanagement, material misstatement and the likes.

Other widely speculated notion that most audits are completed without Financial Statement fraud uncovered, seem so commonly pronounced in societies where forensic accounting services are least patronized. Onyekwelu, Ugwu, and Nnamani (2016) thus opined that adequate incorporation of forensic accounting skills into conventional accounting practice effectively bridges this gap through improved and timely detection of possible material misstatements and/or indicators of abnormal occurrences in the accounting and financial reporting system of corporate organizations. Okoye and Akenbor (2009) equally pointed out that this is quite essential as the "tight control systems" often designed in the traditional accounting system to curtail unethical practices is at best a short run solution to fraud management. Chukwu, Asaolu, Uwuigbe, Uwuigbe, Umukoro, Nassar and Alabi (2019) highlighted further that the basics of forensic accounting is to forestall these unethical developments. Thus, assisting External Auditors in the detection of such anomalies while paving room for Internal Auditors to uphold proactive measures through the deployment of digital forensic investigative techniques, could help prevent re-occurrences among corporate organizations. It is worthy to note that methodologies upheld in the conduct of physical forensics are usually adopted into digital forensics by creating specific forensic software that encompasses such derivations, even as comprehensive knowledge is obtained in that regard by digital forensic specialist towards defeating possible incidences of digital criminality that could alter the integrity of financial reporting process in an organization. It is against this backdrop that the study is envisaged.

Broadly, the study intends to determine how the effective deployment of digital forensic techniques in Nigeria strengthens the sustenance of material misstatement-free financial reporting practices. Specifically, the study intends:

1. To determine whether the application of digital forensic techniques effectively predicts tendencies of material misstatement in pre and post IFRS financial reporting regime in Nigeria.
2. To ascertain the extent to which risk of material misstatement tendencies in the pre and post IFRS financial reporting periods in Nigeria differ.

2 LITERATURE REVIEW

2.1.1 CONCEPT OF DIGITAL FORENSICS

Since the introduction of Digital Forensic in the field of Information Technology especially in corporate business, scholars with undivided interest in technology have been resilient at overcoming audit and research challenges associated with electronic business activities and e-accounting processes of organizations (Mushtaque, Ahsan & Umer, 2015).

Nikkel (2006) cited in Ademu, Imafidon and Preston (2011) defined digital forensic as the use of scientifically derived and proven methods in the identification, preservation, collection, validation, analysis, interpretation, documentation and presentation of digital evidence derived from digital sources for the purpose of facilitating or furthering the reconstruction of events found to be criminal, or helping to anticipate unauthorized actions shown to be disruptive to planned operations. On the other hand, Fenu and Solinas (2016) described digital forensics as the process of investigating a computer system (used for accounting, financial reporting or financial transactions purpose) to determine the cause of the incident.

While organizations are investing on launching, updating and securing the security of their technology-associated infrastructures and operations(Mushtaque, Ahsan & Umer, 2015), the need to dismantle all possible threat of illegal cyber activities that could lead to breaches in financial information quality must be taken serious. Ademu, Imafidon and Preston (2011) had also reported of a complex online fraud which defrauded over £1 million pounds from taxpayers in 2009. It worthy to note that the biggest threat of such illegal cyber activities is the threat from the insiders within the corporate organization who are earnestly seeking for the right opportunities to commit cybercriminal offences towards achieving their illegitimate objectives (Mushtaque, Ahsan & Umer, 2015).

To deal with such criminals, along with annual external audit, many organizations have started acquiring the services of digital forensic firms. These digital forensic firms usually comprise forensic experts and technical specialists with inbuilt reliable digital forensic skills that readily avails the opportunity to provide their clients or organizations with advanced solution response to prevailing and

future cybercriminal activities in the organization. According to Mushtaque, Ahsan and Umer (2015), different models are however followed by forensic firms, depending on the target organization, industry or sector, and the type or intensity of the loss suffered or about to be incurred by committed cybercrime. These models are pragmatic in nature as they usually based on different phases and sets of steps taken to gather reliable and valuable evidences against the culprit or suspect of the cybercrime

World Bank Group (2019) however regrettably noted that there is a shortage of workers with the relevant digital skills needed. And limitedness in digital literacy directly holds back or affects the effective adoption and use of digital products and services such as digital forensic techniques and models. Inadequate policy and regulatory frameworks, including for data protection, cyber security, and competition, has also placed unfriendly constrain on the development of a digital economy in Africa. According to them, digital Economy is the part of economic output derived solely or primarily from digital technologies (ICT) with a business model based on digital goods or services. Without this in place, professional Accountants who eventually adopt a digital forensic technique may find it apprehensively difficult to generate enough evidence needed to prove their case towards deterring future similar occurrences. More so, forensic firms need to equally ensure that the evidences generated by them follow all existing legal requirements of that clearly support and explain concisely, the operations and existence of the organization and in a manner admissible in the court of law. Such evidence can also be gathered from theft of or destruction of intellectual property, fraud or anything else criminally related to the use of a digital devices (Ademu, Imafidon & Preston, 2011). In view of this Forensic Accountants or accounting Professional deploying digital forensic approach when carrying out investigations must understand that digital evidence could be fragile, can be altered, damaged or even destroyed because of improper handling or improper examination. This kind of evidence can be easily copied, modified (for organizations using accounting software to maintain their financial records). Thus, due precaution should be applied to documents collection, preservation and examination.

It is because of these that existing bottlenecks need be addressed to create an enabling environment for such investments to benefit Nigeria's Digital Economy (World Bank Group, 2019).

2.1.2 UNDERSTANDING MATERIAL MISSTATEMENT

Materiality is a general concept that is widely used both in financial reporting and for other purposes. In many jurisdictions, there are requirements that oblige listed entities to keep investors informed about this aspect of business on an ongoing basis. Some jurisdictions use materiality principles and supplementary guidance, to enforce these obligations. (IFRS Foundation, 2015).

The *Conceptual Framework for Financial Reporting through the* IAS 1 *Presentation of Financial Statements* and IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* defines material misstatement thus "Information is material if omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity." (IFRS Foundation, 2015). In other words, materiality is an entity-specific aspect of relevance based on the nature and magnitude, or both, of the items to which the information relates in the context of an individual entity's financial report. Accordingly, the concept of materiality is pervasive to the preparation of Financial Statements. Requirements in IFRS must be applied if their effect is material to the complete set of Financial Statements. Similarly, a requirement in IFRS need not be applied if the effect of not applying it is not material (IFRS Foundation, 2015).

On the other hand, the International Standard on Auditing (ISA) No. 450 document '*Evaluation of Misstatements Identified During the Audit*' viewed misstatement as the difference between the amount, classification, presentation, or disclosure of a reported Financial Statement item and the amount, classification, presentation, or disclosure that is required for the item to be in accordance with the applicable financial reporting framework. ISA No. 450 stressed that misstatement occurs in financial reporting of corporate organization for reasons such as inaccuracy in gathering or processing data from which the Financial Statements are prepared, omission of an amount or disclosure; incorrect accounting estimate arising from overlooking or clear misinterpretation of facts; and management's judgments concerning accounting estimates that the Auditor considers unreasonable or the selection and application of accounting policies that the Auditor considers inappropriate.

Although ISA No. 240 *"The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements"* states that misstatements in the Financial Statements can arise from either fraud or error, ISA No. 450 further clarified that misstatement could take different forms such as:

i. *Error:* An unintentional misstatement in the Financial Statements.
ii. *Factual misstatements*: Misstatements about which there is no doubt.
iii. *Fraud:* An intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage. Two types of intentional misstatements are relevant to the auditor, that is, misstatements resulting from fraudulent financial reporting and misstatements resulting from misappropriation of assets.
iv. *Judgmental misstatements*: Differences arising from management's judgments concerning accounting estimates that the auditor considers unreasonable, or the selection or application of accounting policies that the auditor considers inappropriate.

v. *Projected misstatements*: The Auditor's best estimate of misstatements in populations, involving the projection of misstatements identified in audit samples to the entire populations from which the samples were drawn.
vi. *Uncorrected misstatements*: Misstatements that the auditor has accumulated during the audit and that management has not corrected.

SAS No. 99 however summarized misstatement into two basic types namely misstatements arising from fraudulent financial reporting and misstatements arising from misappropriation of assets.

ISA No. 450 affirmed further that certain circumstances as enumerated below which are related to some notable incidence of misstatements may cause the Auditor to evaluate them as material, individually or together with other misstatements accumulated during the audit though they maintain status lower than the materiality level for the Financial Statements. It must however be acknowledged that their existence does not necessarily mean that the misstatement observed is material even though they were earlier evaluated as though they were material.

a. If observed misstatement affects compliance with debt covenants or other contractual requirements.
b. If observed misstatement masks a change in earnings or other trends, especially in the context of general economic and industry conditions;
c. If observed misstatement affects ratios used to evaluate the entity's financial position, results of operations or cashflows.
d. If observed misstatement affects compliance with regulatory requirements;
e. If observed misstatement affects segment information presented in the Financial Statements.
f. If observed misstatement has the effect of increasing management compensation, for example, by ensuring that the requirements for the award of bonuses or other incentives are satisfied;
g. If observed misstatement is a misclassification between certain account balances affecting items disclosed separately in the Financial Statements.
h. If observed misstatement is significant having regard to the auditor's understanding of known previous communications to Users.
i. If observed misstatement relates to items involving particular parties.
j. If observed misstatement is an omission of information not specifically required by the applicable financial reporting framework but which, in the judgment of the auditor, is important to the Users' understanding of the financial position, financial performance or cash flows of the entity;
k. If observed misstatement affects other information that will be communicated in documents containing the audited Financial Statements.

The level of confidence reposed on financial report is determined by the quality and reliability of such reports. The whole essence of forensic accounting practice is to be able to improve on these two conditions (Chukwu, Asaolu, Uwuigbe, Uwuigbe, Umukoro, Nassar and Alabi, 2019).

2.1.3 ROLE OF FORENSIC ACCOUNTANTS

Forensic accounting has become one of today's most powerful investigative and intelligence tools available. It is considered as the tripartite practice of utilizing accounting, auditing and investigative skills to assist in legal matters (Okoye and Akamobi, 2009). There are hence no doubt that qualified, trained and mature accounting professionals, possessing forensic skills, can prove to be a valuable asset to the corporate sector (Bhasin, 2013). It is a profession whose root has been traced to as far back as the early 1800s in Glasgow, Scotland (Okoye and Akamobi, 2009). Okoye and Akenbor (2009b) bear witness to this stating that the existence of forensic accounting can be traced back to the year 1817 in a court decision of Meyer V. Sefton. According to them, a witness (in the case) who had examined the bankrupt estate accounts and Financial Statements was asked to testify as the nature of the case showed that such inquiry could not be made in court. Thereafter in 1824, a young Scottish Accountant issued a circular advertising for expertise in arbitration support. In late 1800s and early 1900s, articles began to appear discussing expert witnessing and evidence arbitration. Hence, forensic accounting evolves through expert witnessing. These Scholars also observed that it was in 1946 that documentary evidence by Maurice E. Peloubet, a partner in a New York accounting firm was first made in the United States of America through a published article titled 'forensic accounting'. Presently, its relevance, application and specialization have gradually taken a center stage in the fight against corruption in Nigeria and currently a growing area of practice among professional Accountants in the country amidst the disturbing disbelief among many enterprises, institutions and individuals in developing countries that forensic accounting is not different from Auditing.

Though a specialty practice area of accounting that describes engagements from actual or anticipated disputes or litigation, forensic accounting according to Okoye and Akamobi, 2009) is the science that deals with the relation and application of financial, accounting, tax and auditing, knowledge to analyze, investigate, inquire, test and examine matters in civic law, criminal law and jurisprudence. Modugu and Anyaduba(2013) cited in Onyekwelu, Ugwu and Nnamani (2016) viewed it as the application of science in response to pressing but pending questions arising from crime or litigation but introduced into accounting practice as a more reliable and evidential means of enhancing financial investigations, prevention or reduction of financial impropriety of all forms. As specialists in Accounting and Finance with inquisitive mind and commendable knowledge of business laws and legal provisions relating to economic crimes and other related criminal offences, who are also consistently exposed to modern day dynamic electronic Accounting applications and emerging technologies, Forensic Accountants as professionals are trained to be proficient in the use of professional skills, core arithmetic, analytical and investigative skills, and competencies in the assessment of risk factors that could lead to material misstatement.

And even though the External Auditor may suspect or, in rare cases, identify the occurrence of material misstatement, he does not make legal determinations of whether fraud has occurred (ISA No. 240 document). Forensic Accounting professionals often have skill sets in multiple areas and can leverage their skills and abilities from one area when working in others. Critical thinking, sometimes referred to as lateral thinking or thinking "outside the box," is a disciplined approach to problem solving. It is used as a foundation to guide the thought process and related actions of Forensic Accountants.

2.1.4 FORENSIC ACCOUNTANTS SKILLS AND USE OF PROFESSIONAL SKEPTICISM

Forensic accounting involves the application of special skills which includes the application of digital forensic skills in accounting, auditing, finance, quantitative methods and law and research. It involves quantitative skills to collect, analyze, and evaluate financial evidence as well as the ability to interpret and communicate findings (Okoye and Gbegi, 2013). These are fundamentals to the practice of forensic accounting which by implication also affect financial reporting credibility (Chukwu, Asaolu, Uwuigbe, Uwuigbe, Umukoro, Nassar and Alabi, 2019).

As much as it is expected of Forensic Accountants to possess strong basic accounting and auditing skills, the rigidness of technical and analytical skills possessed is paramount to the speed of responsiveness of this accounting professionals during investigation or practice. Okoye and Gbegi (2013) support this pointing out that Forensic accounting includes the use of accounting, auditing and investigative skills to assist in legal matters.

Psycho-Social Skills encompassing personality traits, interviewing skills, psychology stamina and strength of social interaction which all enable the Forensic Accountant to understand the mindset of fraudsters and being able to analyses and interpret their actions and inactions (Chukwu, Asaolu, Uwuigbe, Uwuigbe, Umukoro, Nassar & Alabi, 2019) equally helps these investigative accounting professionals appreciate the dynamic nature of pressure-oriented environmental factors around them. Practical (or Psychomotor) skills would assist the Forensic Accountant to compute, re-compute (if the need arises) and review large volume of data that may range from more usual accounting records and management information systems, to memos, correspondence and other less obvious financial data (Okoye and Akamobi, 2009). But failure of the Forensic Accountants to develop and acquire unique persuasive communication skills will no doubt hamper his effectiveness in practice and efficiency in timely execution of a professional investigation. Okoye and Akamobi (2009) maintained that a Forensic Accountant should possess commendable theoretical and practical knowledge of the subject matter being investigated to enable him to communicate complex theoretical ideas in a manner easily understandable. Communication is considered very vital as the need always arises for the Forensic Accountant to pen down his work in a

professional manner. This is more as a properly written findings can be a pivotal weapon during prosecution and may help to impress the judge/jury.

Provisions of SAS No. 99 pointed out that due professional care requires the Auditor to exercise professional skepticism during professional audit assignment. Professional skepticism is an attitude that includes a questioning mind and a critical assessment of audit evidence. Maintaining professional skepticism throughout the audit, considering the potential for management override of controls and recognizing the fact that audit procedures that are effective for detecting error may not be effective in detecting fraud (ISA No. 240), cannot be overemphasized. ISA 200 affirms that the Auditor shall maintain professional skepticism throughout the audit, recognizing the possibility that a material misstatement due to fraud could exist, notwithstanding the auditor's past experience of the honesty and integrity of the entity's management and those charged with governance. This is in view of the fact that possible changes in such circumstances attributable to the entity's management are largely obtainable and feasible.

Little wonder why Okoye and Akamobi (2009) strongly recommended that such accounting professionals need equally possess digital-based/computer literacy skills, as their ability to manipulate and interpret large data is very vital during the litigation process. This remarkable skill which is highly indispensable in today's professional practice and dynamic global corporate environment would serve as reliable bail out to forensic accounting experts during professional investigations especially when not satisfied with the reports of the Internal and External Auditors.

Accordingly, professional skepticism includes considering the reliability of financial information to be used as audit evidence and the controls over its preparation and maintenance where relevant. Due to characteristics of fraud, the Auditor's professional skepticism is particularly important when considering the risks of material misstatement due to fraud. A situation whereby the investigating Auditor has cause to believe that the disclosures in the Financial Statement may not be authentic or may have been modified given its inconsistency with previous documentation of the same is in essence a call for further investigation. A situation whereby feedback responses from management team of an entity on inquiries placed before it by the investigating Auditor at different times is inconsistent is even more worrisome and questionable/skeptical. Nwoye *et al*, (2013) point out that SAS No. 99's primary mechanism to deter and detect fraud is through an elevated *"professional skepticism"* among Auditors. According to the trio, possession of unique technique provides Forensic Accountants and investigating Auditors with better understanding of what fraud entails (as against an error), and gives an overview of the factors that contribute to fraud (primarily incentives/pressures, opportunity, and rationalization/attitude).

Forensic Accountant and External Auditors cannot detect fraud and material misstatement when they lack professional skepticism as a requisite professional character and are as a result, unable to distinguish incidence of intentional material

misstatement from errors (Nwoye et al, 2013). It is also likely that red flags‖ were or may have been noticed but inexperienced Auditors did not comprehend the magnitude of what they uncovered. Crumbley and Apostolou (2005) cited in Okoye and Gbegi (2013) lend voice to this possibly stressing that this is the reason why Professional Forensic Accountants, unlike the External Auditor, maintain a single-minded focus on detection and deterrence of fraud as its professional responsibility. However, Conan, Steve. Chad and Zimbelman (2009) noted that External Auditors' understanding of the requirements of SAS No. 99 equally helps to mitigate this problem effectively.

2.1.5 DEPLOYMENT OF EFFECTIVE DIGITAL FORENSIC TECHNIQUES

In effort to effectively and proactively minimize or even curtail incidence of material misstatements that usually lead to financial distress in corporate organizations in this era of massive technological advancement, the need to explore the services of experienced and exposed professional Forensic Accountants with reliable digital forensic skills and proven sense of independence of high magnitude should be held in high esteem. Such professionals are considered to possess and are adequately informed cum knowledgeable in the appropriate use of diverse digital investigative approaches and techniques capable of exposing/deterring cyber related financial crimes/fraudulent activities and unearthing fictitious financial disclosures and possible manipulations in electronic and non-electronic financial reporting practices of corporate organization. Oyebisi, Wisdom, Olusogo and Ifeoluwa (2018) cited in Papík and Papíková (2019) observe that studies from less developed countries as Nigeria affirm that a positive correlation relationship exist between forensic accounting practices and fraud prevention.

Forensic Accountants, Financial Crime Investigators, Financial Analysts, External Auditors, Internal Auditors et cetera, need effective statistical but digitally-enabled techniques and/or model(s) to augment the various non digital Audit analytical procedures that are rarely performed real time on enterprises by their Internal Audit departments during or after online or electronic commerce oriented business deals and transactions. Several ratios and other related digital forensic techniques as Declow F-Score model, Altman Z-Score Model, Ohlson Model, Neural networks, machine learning language, Benford's Law et cetera have been adopted and applied by various scholars and professionals at different times. Yet, Nwoye *et al*, (2013) pointed out that these professionals need tested forensic investigative models and digital forensic techniques that possess the capability of effectively combating online related cyber/fraudulent activities while pointing to areas in the financial reporting of organizations that are prone to falsification, alteration, manipulation, damage and material misstatement, thus strengthening the substantive tests usually performed on corporate organizations

Cynthia, (2005) in a 2004 report of the Association of Certified Fraud Examiners (ACFE) highlighted on the above belief as she urged Certified Public

Accountants to adopt such forensic data mining techniques as *Beneish or Probit Model*‖ in the performance of Audits of investigations towards effectively implementing the requirements of SAS No. 99, that they may be reasonably assured that Financial Statements are free from material misstatement.

A deliberate concerted observation of .comprehensive *brainstorming session* on the topic of fraud at the planning stage of a forensic audit investigation is another but non digital forensic technique worthy of emulation among investigative professional Accountants. Effective brainstorming session provides an outlet for experienced Forensic Auditors cum Accountants to chronicle their prior exposures and experiences with clients and cyberfraudsters to less experienced young Forensic Accountants and engagement members by providing examples of ways and means by which online fraud and misleading material misstatement could theoretically be perpetrated by the client. It is worthy of note that Forensic Auditors are much more likely to correctly identify fraud risk conditions if the audit team engages in open-ended, non-traditional considerations of intentional material misstatement and/or fraud (Nwoye et al, 2013).

2.1.6 THEORETICAL FRAMEWORK

The study was built on two major theories namely the policeman theory and the theory of inspired confidence.

2.1.6.1 POLICEMAN THEORY

This theory was developed in late 1920s by a Dutch Professor, Theodore Limperg. It views Auditors as policemen who are focused on arithmetical accuracy and on prevention and detection of fraud. Accordingly, the primary emphasis of auditing is to form opinion as to the true and fair view of the financial Statement. To this end, Auditors have continually shunned from expectations of shareholders and stakeholders in businesses to acknowledge fraud detection as part of its primary audit responsibility. Although this category of professional Accountants have over the years sustained this professional belief, the need to reassure Investors that the Financial stewardship of the Management is free from material misstatement has resulted in the embrace of the emergence of forensic accounting practice in the corporate environment. Believed to be poised with the main goal of tracking down fraud, these professional Accountants equally conduct their duties in manner that major evidence generated by them quite admissible in a court of law. This is the grand emphasis of the policeman theory. However, the theory seems to have lost much of its explanatory power due to its inability to explain the shift of auditing to, 'Verification of truth and fairness of the financial statements.

2.1.6.2 THEORY OF INSPIRED CONFIDENCE

This theory was also developed in the late 1920s by the Dutch professor Theodore Limperg. According the theory, the demand for audit services is a direct response prompted by the participation of outside Stakeholders in a company. These stakeholders in view of their investment in and contribution to the company, seek

unbiased accountability from the management who were employed by them. But since the tendency that such financial information provided by the Management might be biased leading to conflict of interest between the expectations of the management and that of outside Stakeholders, the conduct of an independent audit on such financial information becomes the last resort. Accordingly, it is also the belief of the theory that the Auditor's job should be executed in a professional manner that ensures that the expectations of a rational user of such financial information are not thwarted. So, given the possibilities of obtaining supportive audit-friendly technologies, the professional Auditor should exercise all professional digital and non-digital investigative skills at his disposal to meet reasonable public expectations.

2.2 EMPIRICAL PRIOR STUDIES

Bhasin (2013) in his survey study, obtained the views of 65 respondents comprising professional/Forensic Accountants, Accounting Academics, and Users of forensic accounting services to determine the extent to which financial and economic crimes have impacted on the Indian economy and the effectiveness of forensic accounting functions. Using one-way ANOVA for relevant analysis carried out, he found out that core skills are not enough requirements for Forensic Accountants to investigate economic and financial crimes in India.

Ehioghiren and Atu (2016) surveyed 572 respondents comprising corporate Accountants, Auditors, Top Management Staff, Shareholder and Academics in Edo and Delta States to examine the effectiveness of Forensic accounting in influencing fraud reduction and control. Based on the output of a multiple regression analysis conducted, it was discovered that Forensic accounting significantly influences fraud detection and control. The study however failed to show empirical means by which this was achieved or is achievable.

Ocansey (2017) descriptively assessed 66 technical officers of Economic and Organized Crime Office of Ghana to examine the relevance of forensic accounting technique application in combating financial crimes in Ghana. Analyzing the qualitative data obtained via questionnaire using regression statistics, it was found that the application of forensic accounting technique has significant impact on combating economic and financial crimes in Ghana. The study however failed to lend credence to findings through practical identification of the relevant forensic accounting technique that is most significant at combating economic and financial crimes in Ghana.

Nwoye et al (2013) investigated the 2006 – 2010 annual reports of top 5 manufacturing companies in Nigeria towards determining whether Beneish Model will effectively improve Nigeria Auditors' detection of fraud in the Financial Statements. Output of preliminary analysis performed on data extracts from the affected annual reports and consequent data analyses performed using one ANOVA statistical technique showed that the adoption and application of Beneish Model by

Auditors in Nigeria will effectively improve detection of fraud in the Financial Statements.

Tarjo and Herawati (2015) empirically investigated the financial disclosures of companies that commit fraud according to the fraud Database of Sanctions of Issuer Cases Public Companies that was released by the Financial Services Authority for the period 2001-2014. The results of the study showed that overall application of the Beneish m-score model was capable to detect financial fraud. The Gross Margin index, Depreciation index, index of sales and general administrative burden and Total Accruals Total Asset were all significant in detecting financial fraud. Sales Growth index, Asset quality index, and Leverage index was statistically not significant in detecting financial fraud.

Omar, Koya, Sanusi and Shafie (2014) in their extant studies noted that the Beneish model and Ratios Analysis will benefit Auditors and other professionals in the discharge of their professional duties.

Dbouk and Zaarour (2017) studied 53 Labanese largest corporations for the years 2006 – 2009 using a Layer of Machine Learning technique such as Bayesian Naïve Classifier (BNC). They noted that mathematical models as deployed by them outperformed Auditors' manual approach. This implied that Manual Auditors' Methods are difficult to detect Earnings Manipulation of Financial Statements. Thus, the study revealed a classification rate of (86.84 per cent) using the Beneish Model and (60.53 per cent) using Manual Auditors' Methods.

Okoye and Gbegi (2013), by means of questionnaire to 350 staff of 5 Ministries in Kogi State, Nigeria, examined forensic accounting as a tool for fraud detection and prevention in the public sector organizations. Their findings showed that the use of Forensic Accounting does significantly reduces fraudulent occurrence in the public sector, even as there is significance difference between Professional Forensic Accountants and Traditional External Auditors.

Chukwu, Asaolu, Uwuigbe, Uwuigbe, Umukoro, Nassar and Alabi (2019) in their exploratory study which covered 40 Corporate Investment Advisers in the Lagos metropolis, Nigeria as at January 2018, found that, with the exception of communication skills which exhibited a negative but significant impact, all the other basic forensic accounting skills exert positive and significant impact on the methods by which an organization reports her financials.

Okoye and Jugu (2010) in a survey study conducted among 200 accounting academics, potential Forensic Accountants and potential Users in Plateau, Anambra, Nasarawa, Bauchi and Abuja found that special skills are necessities for the work of a Forensic Accountant.

2.2.1 GAP IN KNOWLEDGE

Studies such as Chukwu *et al*, (2019), Okoye and Jugu (2010), Okoye and Gbegi (2013), Ocansey (2017), Ehioghiren and Atu (2016), and Bhasin (2013)

conducted related studies on forensic accounting skills but adopted the survey research approach in a more empirically enabled research area. More so, most of them focused on forensic accounting skills, special skills of forensic Accountants et cetera without any specific recourse to digital forensic skills or techniques.

Further observations made from related prior studies reviewed in this work showed that only Dbouk and Zaarour (2017) adopted a likely digital technique such as Machine Learning technique called Bayesian Naïve Classifier (BNC) but failed to buttress its suitability for use as a digital forensic technique. Although Nwoye et al (2013) and Tarjo and Herawati (2015) adequately applied the digital forensic technique as Probit or Beneish Model, the latter covered only five (5) manufacturing companies. The present study also intends to fill this gap by assessing fifty (50) public listed manufacturing companies in Nigeria for a more robust and reliable result output

3. METHODOLOGY

The ex-post facto research design was adopted in this study. Thus, published Pre (*Financial Statements based on Statements of Accounting Standards*) and Post (*Financial Statements that is fully compliant with IFRS disclosure guidelines*) annual reports of fifty (50) public listed manufacturing companies in Nigeria were sampled purposively to the extent of the availability of their Financial Statements for period 2006 – 2016. This means that 2007 – 2011 (*with 2006 serving as comparative year to year 2007*) represented pre-IFRS period while 2012 – 2016 were the post-IFRS periods covered. Financial disclosures from these Financial Statements were duly extracted for application purpose of the digital forensic technique adopted.

Outputs of the digital forensic technique applied were further subjected to the Multiple Regression and Mann Whitney U test analyses using SPSS version 22 statistical software. While Material Misstatement represented the dependent variable of the study, the Beneish Probit Model served as proxy to the independent variable (digital forensic techniques).

4 RESULTS AND DISCUSSION

4.1 HYPOTHESIS ONE

Using the Multiple Regression statistical tool, the hypothesis is evaluated by combining the predictive output of the digital forensic technique (Beneish ratios) applied 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: Digital forensic techniques cannot effectively predict tendencies of material misstatement in pre and post IFRS financial reporting regimes in Nigeria

Shown below is the result of the analysis carried out:

Table 1. *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 2 . *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 3. *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 *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 5 *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 6 .*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 1 and 4- 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).

Indicators of tables 3 and 6- 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 8 Predictive ratios of the Probit Model 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:

Table 7. *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 8. *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 9. *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)	-24.336	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 7 and 8- 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. 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). Table 9 equally shows that Asset Quality Index, Day's Sales Receivable Index, and Gross Margin Index with .000, .003, and .031 which are less than 0.05 made the most statistical contribution at explaining or predicting the dependent variable (material misstatement) in the pooled equation.

A Chow test was however conducted to help substantiate if the two separate linear regressions for pre IFRS financial disclosures and post IFRS financial 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 formula below, the result of the Chow test is given as:

$$(RSS_p - (RSS_1 + RSS_2)) / k$$

$$(RSS_1 + RSS_2) / (N_1 + N_2 - 2k)$$

F-critical value = 2.128

Despite observed statistical proof from Tables 2, 5 and 8 that placing absolute reliance on the outcome of the individual and pooled regression models for decision making purpose is statistically okay, a careful look at the outcome of the Chow test executed 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.

4.1.1 FURTHER STATISTICAL PROOF

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 loses firm grip to serving as basis for reaching meaningful decision on the implication of the hypothesis test conducted. This is because when calculated *F-critical value* is greater than *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.* Since *F-critical value (2.128) in this case is* greater than the *F-table value (2.02)*, 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.

4.1.2 DECISION

Reject the null hypothesis if 'F-critical value is greater than the F-table value' otherwise accepts and rejects the alternate hypothesis.

Since calculated F-critical values for Pre IFRS regime and Post IFRS regime (13.099 and 77.890 in Tables 5 and 5) are greater than F-table value of 2.10, we reject the null hypothesis and accept the alternate. This implies that *applying digital forensic techniques effectively predicts tendencies of material misstatement in pre and post IFRS financial reporting regimes in Nigeria*

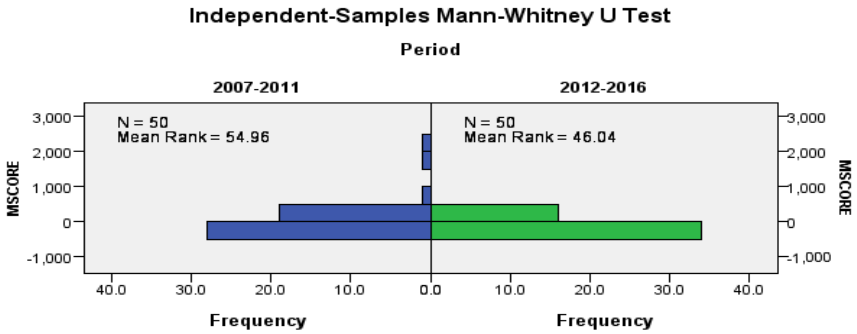
This was further substantiated from the M-Scores outcome of the Probit model analysis where out of 250 observations made in each financial reporting regime (a total of 500 observations made in all), a total of 105 and 129 tendencies of material misstatements were identified in the pre IFRS and post IFRS Financial Statements of the public listed manufacturing companies evaluated. More evidence from the Tables 3 and 6 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 significant

contributions in explaining the state of material misstatement practices among the 50 manufacturing companies studied in Nigeria

4.2 HYPOTHESIS TWO

H_2: Risk of material misstatement tendencies in the pre and post IFRS financial reporting periods in Nigeria do not differ.

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 1: *Mann Whitney U test result to hypothesis six*

Excerpts from chart and Figure 1, evidence shows that the probability value (p-value) = .124 is greater than 0.05. Besides, the Mean Rank for both periods' evidences of material misstatements does not differ significantly. The Mean score of Nigeria's post-IFRS period's material misstatement tendencies (2012 – 2016) ranked 46.04 while those of her pre-IFRS financial reporting periods (2007 – 2011) ranked 54.96; a difference of 19.4% material misstatement tendencies between both financial reporting regimes.

4.2.1 DECISION

P-value greater 0.05 indicates that no significant difference exists in the Mean Rank of two groups being compared. The reverse is the case where p-value is less than 0.05.

Since the p-value (0.124) > 0.05, we accept the null hypothesis, and this implies that *risk of material misstatement tendencies in the pre and post IFRS financial reporting periods in Nigeria do not differ*

Further clue from Table 10 (see Appendix A) shows that observation made from the 50 Nigerian manufacturing companies sampled for the years 2007 – 2011 (pre-IFRS period) and 2012 – 2016 (post IFRS period) indicates that 105 tendencies of material misstatement out of 250 observations were recorded in the pre-IFRS regime (*42% incidence of material misstatement red flagged*) while 129 similar tendencies were recorded in the post-IFRS periods out 250 similar observations made (*51.6% incidences of material misstatement predicted*). This implies that a total of 234 tendencies (46.8% on the average) of material misstatements were discovered out of the 500 observations assessed in both reporting regimes, interestingly, no real significant difference appears to exist between the material misstatement tendencies of both financial reporting as presented above.

5. CONCLUSION AND RECOMMENDATIONS

The progressive embrace of the International Financial Reporting Standards (IFRS) globally was considered an immediate response towards resuscitating the International Stock Markets from the after effect of the then corporate failures and global financial crisis of post 2002 and 2007-2008 business years. With a renewed emphasis on high quality Financial Statements, the need to restore investors' confidence on corporate financial information globally through enhanced comparability of financial information across International Stock Markets should not be pursued in isolation without reasonable consideration given to the possible effect of current technological advancement as e-accounting, e-commerce, cyberattack, digital economy, financial technology (Fintech), digital ledger technology (blockchain), cloud accounting et cetera, on financial reporting practices globally. Thus, given the magnitude of positive global response to IFRS disclosure guidelines and emerging financial-oriented technologies presently being embraced by firms around the world, the mission statement on which the development of IFRSs by the International Accounting Standard Board (IASB) was built- *promotion of transparency and faithful representation of disclosed financial information of corporate organizations*, may be grossly undermined in the near future if timely appropriate steps are not taken to advance the need for establishment of solid digital infrastructures in developing countries like Nigeria. This way, adequate development of digital skills among professional Accountants/Forensic Accountants and the implementation of appropriate digital forensic technology will be met with

ease by professional accounting bodies and corporate organization across different financial reporting jurisdictions worldwide.

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APPENDIX A

BENEISH MODEL COMPUTATION OUTPUT

Table 4.24: *Pre- and Post-IFRS period in Nigeria (2007 – 2016)*

S/N	NAME OF COMPANY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	7 UP Bottling Company	-2.19	89.92	-2.602	-2.716	-3.046	14.580	-3.491	-3.464	-2.14	-2.815
2	Aluminum Extrusion	9082.3	-4.232	-0.571	-2.694	-2.459	-0.757	-1.989	7.027	-2.941	-1.169
3	Berger Paint	-3.21	-2.902	-2.898	-2.173	3.343	-2.141	-2.171	0.052	-2.884	-2.404
4	Beta Glass	-1.110	-2.527	0.251	-2.545	-3.038	14.800	-2.437	-3.437	46.71	-2.393
5	BOC Gases	-2.466	-2.049	3.310	0.148	-2.180	-2.344	-3.423	-1.419	1.672	-2.531
6	Cadbury Nigeria	-3.268	-2.584	-3.329	-2.060	-2.706	-2.425	-2.815	14.96	-3.178	-1.99
7	CAP Plc	-2.459	-3.356	-1.993	30.673	-2.001	-1.902	-0.045	-0.221	-0.480	2.925
8	Chams	-2.22	3.347	-2.453	-8.160	-2.280	-0.744	-1.306	-1.802	-4.254	-4.280
9	Conoil	-1.664	-0.558	-17.995	11561.27	-1.266	0.172	-4.271	-1.124	-2.481	-3.797
10	Cutix	-3.395	0.793	0.183	2.220	2.841	0.786	-1.683	-2.136	-2.428	-3.123
11	Dangote Cement	-2.657	-3.366	8.755	47.489	-3.095	-1.375	-1.556	-3.110	-2.131	-0.778
12	Dangote Flour Mills	-2.22	-2.791	-3.497	-3.728	-3.069	-0.889	1.358	-2.444	-2.772	-1.464
13	Dangote Sugar	-1.505	33.89	-1.607	-0.575	-0.702	-2.987	-0.033	-1.998	-1.857	-2.581
14	Eterna Oil	1.369	6.493	-3.595	-2.541	1.124	0.001	-3.439	-2.994	-0.185	-3.227
15	First Aluminum	-2.22	-2.806	-2.900	-2.399	-2.896	-2.327	-2.192	-2.975	-2.203	-2.391

16	Flour Mills of Nigeria Plc	-0.477	-1.835	-3.860	-2.526	-1.442	-2.303	5.711	-2.461	3.992	-2.235
17	Forte Oil (African Petroleum)	-2.22	1.367	0.114	-3.285	-2.184	-2.769	-0.842	-1.854	-3.293	-2.154
18	FTN Cocoa Processor	-2.200	575.04	-0.644	-1.000	85.369	-4.818	-0.246	-3.261	29.94	-3.260
19	Greif	-1.569	-2.335	-3.164	-2.516	-2.268	-2.924	-2.914	0.580	-3.168	-0.654
20	GSK	-2.593	-2.774	-2.676	-2.529	-2.210	-2.124	-0.825	-2.039	41.86	0.005
21	Guinness Nigeria	-2.400	-2.407	2.026	-2.933	-1.419	-2.945	-2.847	-2.500	-3.134	-1.161
22	Japaul Oil & Maritime	-3.407	325.65	-0.207	-8.283	-2.601	158.36	3.466	-2.860	-3.192	-2.022
23	John Holt	-1.203	-2.158	-2.765	-2.065	14.027	-4.126	-4.307	-0.653	-3.124	-1.714
	Beneish Integrity Score	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22

SOURCE: Beneish Model Computation for Nigeria (Pre IFRS period- 2007 – 2011) and (Post IFRS period- 2012 - 2016).

- If Mscore is above **-2.22** (that is, negative Nos. smaller than **-2.22** or any positive Nos.) = *Questionable data Integrity level (in dark color).*
- If Mscore is below **-2.22** (that is, negative Nos. higher than **-2.22)** = *Reasonable data Integrity level (in white color).*

APPENDIX A: BENEISH MODEL COMPUTATION OUTPUT Continues

S/N	NAME OF COMPANY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
24	Julius Berger	-3.163	-3.175	0.755	-3.559	26.101	-2.392	-2.089	-1.864	-2.189	-1.714
25	Lafarge Cement	-0.280	-2.524	-3.367	-0.061	-1.603	434.4	-2.425	742.6	-2.149	-0.646
26	Leventis	-3.263	-1.187	-1.940	-0.432	5.245	-1.974	-2.135	-2.375	-2.760	-3.986
27	Livestock Feeds	-1.908	-0.575	-2.827	-1.249	-1.208	-1.584	-1.003	-1.944	-2.776	-1.937
28	May & Baker	-0.096	-2.402	-3.073	-2.272	-2.761	-1.638	-2.686	-2.239	-3.144	-2.903
29	Meyer	-4.389	-3.417	-2.199	1.175	-3.051	-0.811	-3.110	-2.828	-1.801	-2.756
30	Morison Industries	-1.638	-1.218	-2.771	-2.959	-3.133	-2.084	0.946	-3.991	-3.495	-3.690
31	MRS Oil (Chevron)	-2.353	-1.269	-1.682	-1.260	-1.566	-4.142	-2.476	-2.906	-2.641	-1.012
32	Nat. Salt Company of Nigeria	-9.766	-16.128	-12.366	-14.597	-2.171	414.50	-22.555	727.82	-22.666	-2.22
33	NCR Nigeria	-4.584	-1.743	-0.104	-0.879	27.412	-5.256	-4.660	-2.632	-3.919	0.868
34	Nestle Foods Nigeria	-1.635	-0.987	-2.402	-1.556	125.92	-2.568	-2.491	-1.655	-2.651	-3.172
35	Nigerian Enamelware	-2.086	-2.639	-1.685	119.52	-3.460	16.34	-1.974	-1.015	0.426	-3.378
36	Nigerian Breweries	-2.314	-3.126	-1.973	-1.791	44.40	-1.654	-3.271	-2.118	-2.599	-2.495
37	Northern Nigeria Flour Mills	-5.090	-2.015	-3.072	-2.22	-2.22	-1.535	-0.075	-1.824	-4.344	7.059
38	Oando Nigeria	-3.534	-1.302	-2.840	-2.357	-0.210	-1.667	-2.342	-3.067	-1.147	-0.625
39	Okomu Oil Palm	-2.980	-1.503	-2.861	48.518	-1.159	-3.280	-3.744	13.75	-2.132	-1.461
40	Pharma Deko	-2.550	-1.727	-3.430	-2.371	-1.996	-3.991	-3.334	-2.853	-0.485	-2.324
41	Premier Paint	-1.785	-2.482	422.21	-4.840	-2.347	-1.904	-2.803	-2.287	-2.965	-3.017

42	Presco	-3.485	-0.249	-2.765	-2.414	-1.053	231.72	-3.172	-2.482	-2.510	-5.949
43	PZ Cusson Nigeria	-1.352	-2.907	-2.701	-2.982	-1.688	-2.605	-3.644	-3.126	13.611	-3.305
44	Smart Products	0.792	-2.22	-2.22	-3.618	2460.91	-2.527	1.761	-1.598	-1.101	-1.108
45	Thomas Wyatts	-2.732	5.320	-2.751	-3.529	3.153	-1.341	682.06	-5.099	-3.204	-3.507
46	Total Oil Nigeria	-2.563	-1.587	-2.484	-2.786	-3.098	-0.974	-2.199	-2.690	-2.836	-1.862
47	Triple Gee	-2.280	-1.812	-2.123	-2.912	23.03	10.695	4.271	-2.564	-1.575	-3.487
48	UAC Nigeria	-2.491	-5.956	-2.691	-3.158	0.336	-2.183	-1.911	-1.925	-2.575	-2.073
49	Unilever Nigeria	-2.490	-1.872	-2.320	3687.66	57.232	-1.673	-2.751	-1.781	4.644	-5.035
50	Vita Foam	4.728	-2.832	-2.406	0.210	-0.689	5.110	-2.171	-2.430	-1.626	-1.121
	Beneish Integrity Score	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22	-2.22

- If Mscore is above -2.22 (that is, negative Nos. smaller than -2.22 or any positive Nos.) = *Questionable data Integrity level (in dark color).*
- If Mscore is below -2.22 (that is, negative Nos. higher than -2.22) = *Reasonable data Integrity level (in white color).*