Audit Quality and Earnings Manipulations in Nigeria: Beneish Model

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ABSTRACT: *The significance to prepare reliable information discloses the need to fall back on an external auditor and a quality auditing process that can caution against the management of earnings. In line with the business practice, auditing does not provide sufficient coverage for some earnings management (EM) activities that result in financial statement fraud. Over the years, capital markets around the globe have witnessed numerous corporate financial scandals largely because of financial and accounting figures' manipulation. This has led to casting doubt on the quality of published financial reports and questioning the ability of the audit process. Against this background, this study examined the relationship between audit quality and real earnings management of listed manufacturing companies in Nigeria. Specifically, this study evaluated the effect of audit firm size, audit firm industry specialization, audit firm tenure, and audit firm independence on real earnings management. The study sampled 38 out of 55 listed manufacturing companies that cut-across different sectors from 2013 to 2020. From the multivariate analysis, the findings revealed a significant relationship between audit quality (audit firm size and audit firm independence) with a p-value of 0.014 and 0.003 respectively. It was concluded that firms audited by Big-4 firms with independence attract greater publicity and tighter scrutiny; hence, companies tend to desist from managing their earnings. The study, therefore, recommended that the management of manufacturing firms in Nigeria should persist in engaging experience audit firms with international affiliations, and they should work strictly with the CAMA, 2020 as amended by rotating audit firms after every three years as this will promote the reliability of financial statement prepared by management, and finally reduce manipulation of earnings.*

KEYWORDS: audit quality, audit firms, earnings management, firm independence, manipulations

INTRODUCTION

The annual report which is one of the essential duties of management of companies is a comprehensive account of the company's operations during the previous fiscal year that enables them account for their stewardship to different stakeholders (shareholders, creditors, analysts, government and general public). In order to generate a high-quality financial report, business incidents must be properly reported and the accounting treatment of business events, according to

Mekic, Halilbegovic and Huric (2017), is seen as the adopted accounting policies which must comply with applicable regulations, especially the International Accounting Standards, International Financial Reporting Standards (IFRSs), and the framework for preparing and presenting financial statements.

Nonetheless, given that some reports are viewed as a product of management, the scope of financial reports which management prepared can give room to uncertainty on the truthfulness of conveyed information (Degeorge, Ding & Stolowy, 2013). The significance to prepare reliable information discloses the need to fall back on an external auditor and quality auditing process that can caution against the management of earnings. In line with the business practice, auditing does not provide sufficient coverage for some Earnings Management (EM) activities that result in financial statement fraud. This is because, when preparing financial reports and structuring operations, management takes decisions based on their discretion, which can mislead stakeholders regarding a company's economic performance or influence contracts based on accounting figures. Simply put, it gives the impression of financial reporting that is not accurate.

Consequentially, audit is progressively an essential part of the financial reporting process, because it helps to protect stakeholders' interests. These stakeholders rely on auditor's quality, independence and opinion to make a wellinformed decision. Despite auditors' oversight and some companies been audited by top big four auditors of the world (PWC, KPMG, EY, and Deloitte) which are normally considered the premier accounting firms and associated with higher audit quality over the years, Nigeria and the other part of the world has witness cases financial scandals such as WorldCom, Tyco, Enron, Cadbuty Nigeria Plc. (2006), Afribank Nigeria Plc. (2009), Intercontinental Bank Plc, Bank PHB and Lever Brothers Nigeria Plc and the N23 billion money laundering scam at Oceanic Bank in Nigeria (Ofori, 2016). This is suggesting that financial reporting quality and audit quality has become a concern that needs further scrutiny.

Moreover, the scandal cases have exposed auditors' failure to recognize fraud symptoms and signs. Among steps taken in Nigeria to strengthening the quality of financial report and audit practices were the enactment of the Security and Exchange Commission Code (2011), 2004 bank recapitalization reform (increase in capital reserve from ₦2 billion to ₦25 billion), the adoption of IFRS in 2011 and Nigeria Auditing Standards of International Federation of Accountants (IFAC), amendment of Companies and Allied Matters Act (CAMA), 2020 and Finance Act, 2020. Conversely, despite various regulatory reforms to alleviate the manipulation of earnings among companies, enhance quality of audit process and by extension the quality of published financial reports, financial scandals and corporate failures involving highly rated audit firm are still a cankerworm internationally and at home country (Nigeria).

From the challenges identified, it is germane to come up with the following research questions:

i. How does audit firm size affect earnings management of manufacturing companies in Nigeria?

ii. What influence does audit firm industry specialization has on earnings management of manufacturing companies in Nigeria?

iii. What impact does audit firm tenure has on earnings management of manufacturing companies in Nigeria?
iv. What consequence does audit independence has on earnings management of manufacturing companies in Nigeria?

It has been discovered that the need for precise and quality information to make decisions by firms stakeholders has activate the need for auditors who plays an important role in attesting to the credibility of financial information provided by the management of various organization to guarantee other firm's stakeholders that the annual report prepared can aid their performance related decision. As asserted by Bala, Amran and Shaaari (2018), the goal of an auditor's judgment is to provide users confidence that the financial statement accurately reflects the firm's economic reality. According to previous research, auditor independence improves the integrity of earnings data and limits the impact of EM (Gavious, Segev & Yosef, 2012).

Notwithstanding, in evidence on whether audit quality limit real earnings management (REM) is still being investigated. Unlike AEM, the REM, according to Zang (2012), can have a direct impact on a firm's market value. As a result of its complexity, external auditors, investors, and financial analysts find it difficult to detect and analyze REM. Consequentially, when regulatory bodies and institutions demonstrate strength, managers choose to use the REM method rather than the AEM strategy to prevent regulator notice. According to several authors, corporations have converted from AEM to REM with the passage of the Sarbanes-Oxley Act of 2002 (SOX). Because SOX restricts AEM, yet REM is difficult to be detected by regulators (Braam, Nandy, Weitzel & Lodh, 2015).

Moreover, inadequate studies have been conducted in the area of measuring audit quality through audit independence in Nigeria despite its significance in curbing the menace of earnings manipulation as depicted in the international studies of Almarayeh, Aibar-Guzmán, and Abdullatiy (2020); Abbasiazadeh and Zamanpour (2016); Li and Lin (2005). That of Eriabiea and Dabor (2017); Jayeola *et al*. (2017) was conducted using banking sector as sample and abnormal loss as a proxy of EM and Awa and Obinabo (2020) focused on industrial goods sector only. This research adds to the body of knowledge on real earnings management and audit quality. To the best of the researcher's knowledge, this is one of the earliest and most recent studies in Nigeria that evaluates the impact of audit independence on REM among industrial goods sector in Nigeria.

We looked in Nigeria because most of the corporations involved in corporate financial scandals, such as Cadbury Nigerian Plc, Afribank Plc, Oando Plc, and Oceanic Bank Plc, had their books audited by the Big4 auditors. Similarly, manufacturing sector is used as sample because they are one of the most hoped-for branches of economy in in Nigeria that primarily deals with the process of creating goods. The variables to REM are easily gotten from their annual reports.It is against this backdrop, this study is exploring the effect of audit quality on management of earnings among manufacturing companies in Nigeria and the scope of the study is within time-frame of eight years (2013-2020).

LITERATURE REVIEW

Real Earnings Management (REM)

Real earnings management involves changes made to the normal business operations and consequently should affect the firms cash flows (Zang, 2012). Schipper (1989) viewed REM as an alternative type of earnings management that can be achieved by changing the timing of spending in investing or financing operations with the intention to manipulate the reported earnings. Roychowdhury (2006) defined REM as a departure from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations. These departures do not necessarily contribute to firm value even though they enable managers to meet reporting goals. According to Gunny (2010), REM refers to managing the normal operating activities of companies to adjust earnings according to managers' targets.

Prior studies including Rowchowdhury (2006); Pincus and Rajgopal (2002) have identified several methods to manage earnings through deviations from normal business activities. These methods can either be divided into deviations from operating and investing activities, and deviations from financing activities (Xu, Taylor & Dugan, 2007). Banks could deviate from operating and investing activities by, for example, altering the level of discretionary expenditures, such as Research and Development (R&D) and Selling, General and Administrative expenditures (SG&A). Under IAS 38, para. 57, R&D costs are expensed in the period in which they are incurred. Therefore, by reducing these costs reported income is immediately affected. Developments costs are, in first instance, expensed rather than capitalized due to uncertainty issues regarding the developing product or service. Therefore, postponing development projects can increase earnings as well.

Roychowdhury (2006), Zang (2012) consider three metrics to study the level of real activities manipulations: the abnormal levels of cash flow from operations, discretionary expenses, and production costs. In this study, production costs metric was used as a level of real activities manipulations. In order to increase earnings, managers can increase production more than necessary. By producing more units, managers can spread the fixed overhead costs over a larger number of units, and so they can lower fixed costs per unit. As long as this reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, total cost per unit declines. This decreases reported cost of goods sold (CGS) and the firm can report higher operating margins. However, the firm will still incur other production and holding costs that will lead to higher annual production costs relative to sales, and lower cash flows from operations given sales levels (Omid, 2015).

Production costs are defined as the sum of CGS and change in inventory during the year. I use the following model to estimate the level of production costs:

$$PRODit/TAit\text{-}1 = \beta0[1/\ TA\ it\text{-}1] + \beta1[SALEit\ /\ TAit\text{-}1] + \beta2[\Delta SALEit/TAit\text{-}1] + \beta3[\Delta SALEit\ \text{-}1/TAit\text{-}1] +$$

εit………………………………………..……………………………………….…………….
(2.1)

Where PRODit is sum of cost of goods sold and change in inventory during the year for firm i year t, TA it-1 is total assets for firm i year t-1, SALEit is sales for firm i year t, ΔSALEit is change in sales for firm i from year t – 1 to year t, and ΔSALEit -1 is change in sales for firm i from year t - 2 to year t-1.

Audit Quality

Various authors have separately defined the conceptual framework of audit quality. Audit quality is a goal-oriented audit activity and it is about the perception of users as well (Almutairi, Dunn & Skantz, 2009). DeAngelo (1981) describes audit quality as a market-developed assumption that an auditor will be able to highlight and detect a material breach (i.e. misstatement) and he would subsequently report to the related authority. A closer analysis of this definition highlights two important features of this definition: Detection capability of auditor and its true intention to report it. Within this context, it is vital to mention that this definition does not clearly highlight a true fact, but it only puts a light on an assumption that the auditor will be in a position to detect the material misstatement within financial statements.

In other words, this aspect of the definition assumes that the auditor will be professionally well-equipped and he would be technically sound and competent enough to uncover hidden material misstatements within financial statements. However, the definition is the part of an assumption that is generally found in the market relating to the role and performance of auditor. Additionally, clients also expect their auditors to satisfy the expectations of their auditors in a professional manner without compromising audit quality (Fontaine & Pilote, 2012; Francis, 2011), while carrying out their audit engagements. Thereby, numerous definitions do not always indicate or prove their validity in all sorts of audit engagements and audit processes as well. Overall, numerous definitions of audit quality give various aspects that are more general than particular (Al-Qatamin & Salleh, 2020).

Development of Hypothesis

The difficulty encountered in defining audit quality also extends to its measurement. Efforts in measuring audit quality from prior studies can be classified to direct measures which include financial reporting compliance with GAAP, IFRS, quality control review, and security exchange commission (SEC) performance and indirect measures which include auditor size, auditor rotation, auditor industry expertise, and audit independence (Chadegani, 2011). Hence, this study adopted the indirect proxies as they can reveal high and low levels of audit quality.

Size of Audit Firm

Sumiadji and Subiyantoro (2019) asserted that auditor size indicates the large scale income and organization of the public accountant firm/chartered accountant firms, which is now called Big 4 (including its affiliation), comprising PricewaterhouseCoopers (PwC), Deloitte Touche Tohmatsu (Deloitte), Ernst and Young (EY) and Klynveld Peat Marwick Goerdeler KPMG). Previous studies concentrated mainly on variances among big audit and non-big audit firms. This is because higher

audit firms have a higher tendency to identify and detect manager misreporting since the company may be efficiently monitored further by higher audit firms (Watts & Zimmerman, 1986), and they have a greater possibility to lose more as soon as an audit failure takes place (Bauwhede, Willekens & Gaeremynck, 2003).

According to Rusmin (2010), Big 4 audit firms have greater experience, human resources, technology, and capital that permit them to produce higher quality audits. Moreover, they normally have a larger client base and are globally known brand names, and, therefore, they have more motivation to maintain greater audit quality. Lin and Hwang (2010) reported a significant and negative association in the employment of the big 6/5/4 audit firms and real earnings management. Considering this prior findings, the following hypothesis is tested accordingly

H_{01}: Audit firm size has no significant effect by earnings management of manufacturing companies in Nigeria.

Audit Firm Expertise

Auditor expertise is based on training and practical experience gained from auditing in a particular industry (Gramling & Stone, 2001). Expert knowledge gained through experience increases the likelihood that auditors will detect errors in financial statements as stated by Hammersley (2006). Lim and Tan (2008) reported that specialized industry audit is more concerned about the loss of reputation and litigation exposure than non-specialists, and they take advantage of knowledge spill-overs from non-audit services provision. Kwon, Lim, and Tan (2007) examined the auditor industry-specialized role in the international setting among 28 countries. They highlighted that clients of industry specialist auditors have less discretionary accruals as well as higher earnings response coefficients.

However, in contrast, Johl, Jubb and Houghton (2007) observed a non-significant association between industry-specialized auditor and abnormal accruals. Thus, it is rational to contemplate that auditor industry specialization has a positive increasing influence on FRQ as compared to a non-specialist auditor. Prior studies proposed that both users and companies can take advantage when employing industry-specialist auditors, since a specialist auditor improves auditing quality as well as accounting. Hence the below hypothesis is formulated:

H_{02}: Audit firm expertise does not significantly impact earnings management of quoted manufacturing companies in Nigeria.

Audit Firm Tenure (Rotation)

This involves the disengagement of audit firm services after a period of time. Also, Myers, Myers and Omer (2003) viewed auditor tenure as the period (number of years) that the company is maintained by an auditor while Okolie (2014) defined audit tenure as the length of the relationship between an auditor and a client company. In accordance with the *Article 15.2 FRCN and Article 33.2 SEC Code*, audit firm should be disengage after ten (10) years but may however reappointment after seven 7 years of disengagement. However, scholarly research on the impact

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of auditor rotation (tenure) on earnings management has shown inconsistent results. Hohenfels (2016) found out that earnings quality is perceived as highest when auditor tenure is 8-9 years (positive effect of auditor tenure on EM), claiming that as the duration increases, investor's anticipate a probable degradation in audit quality, which affects earnings quality. This result is in tandem with the study of Khushboo (2021). By acquiring expertise and improved insights into the clients' company strategies and internal financial reporting process, auditors should become better at spotting major misstatements as their tenure grows (Arens, Elder & Beasley, 2005).

Furthermore, Myers *et al*. (2003) claim that auditor tenure and EM have a negative association. Lin and Hwang (2010) conclude that a negative link exists between auditor tenure and earnings management in all of the 48 studies they considered in their meta-analysis. As a result, there is significant evidence that earnings management declines as auditor tenure grows. Arens *et al*. (2005) found that the benefits of a longer tenure offset the loss of independence. As a result, the following hypothesis is proposed:

H_{03}: As auditor tenure increases, the level of earnings management of Nigeria listed manufacturing companies' do not decreases.

The independence of the audit Firm

Audit independence is described by Okolie and Izedonmi (2014) as an auditor's unbiasedness in making choices during an audit exercise. The Independence entails being free from stimulation or guidance when rendering their service. Audit function's usefulness will be severely harmed if independence is not achieved. According to previous research, According to previous research, hefty fees paid by a corporation to its external auditor strengthen the economic relationship between the auditor and the client, reducing the auditor's independence (Li & Lin, 2005). Due to the loss of independence, audit quality suffers, allowing for more EM (resulting in lower earnings quality and stock estimation) (Okoli & Izedonmi, 20014). The need for audit firm independence and audit rotation is evidence in the case of Worldcom scandals where Arthur Andersen earning 3 times more in consultancy fees than for their rendered services. They overlooked Worlcom's wrongful acts of its profit inflation through accounting for expenses. Audit fees have been used in the past to assess auditor independence (Wooten, 2003) and thus, the following hypothesis is formulated:

H_{04}: There is no significant impact of audit firm independence on earnings management of quoted manufacturing companies in Nigeria.

Theoretical Framework

This study's theoretical framework is based on the agency theory which was propounded by Jensen and Meckling (1976). The function of agency theory is based on interaction between the principle (shareholder) and the agent (managers). This separation between management and ownership allows an agent (manager) to be appointed to oversee the company's day-to-day activities. However, because of this relationship, there is a danger of conflicts of interest between the agent

and the principal, necessitating the recording of the costs associated with resolving these conflicts (agency cost).

Anchoring upon the agency theory, auditing function as a monitoring mechanism is supposed to alleviate information asymmetry between the managers and the shareholders of a company by controlling distortion of reported earnings by the former. Quality audits are thought to have a key role in decreasing agency conflicts, according to agency theory. Qualified auditors are effective monitoring systems that bring out favorable signals to the market. Investors are anticipated to appreciate these companies' efforts to eliminate information asymmetry, lowering the cost of equity financing (Houqe, Ahmed & Zijl, 2017). This arises because audited financial reporting can boost management responsibility and serve as a useful tool for shareholders to monitor management responsibilities. Furthermore, the presence of skilled auditors reduces the danger of misinformation for investors by increasing the reliability of financial reporting (Pham, Vu, Nguyen & Nguyen, 2020).

Watts and Zimmerman (1990) and DeAngelo (1981) both state that auditor quality is dependent on the auditor's report's relevance in assessing contractual agreements and reporting on breaches. Higher-quality auditors, according to Bartov et al. (2000), prefer to highlight errors and anomalies and are hesitant to accept questionable accounting methods. As a result, it is hypothesized that high-quality auditors will be more likely to discover real-earnings management (Becker, DeFond, Jiambalvo & Subramanyam, 1998). It is also well acknowledged that audit quality varies amongst audit firms (Francis & Wang, 2008). Non-Big 4 audit firms may deliver better quality than Big 4 audit firms (Caneghem, 2004).

As a result of the aforementioned, agency theory explains unethical accounting and financial difficulties like real earnings management in a better and clearer way and this study uses agency theory to investigate the link between audit quality and the occurrence of real earnings management in Nigeria.

Empirical Review

No statistical significant association between earnings restatements and non-audit fees was found when Li and Lin (2005) looked at the relationship between audit quality and a more direct measure of earnings management (earnings restatements). This study, on the other hand, shows that overall fees and audit fees are positively related to earnings restatements. Chi, Lisic, and Pevzner (2011) looked at 925 firm-year data from 2001 to 2008 to see if firms use real earnings management when their capacity to manage accruals is limited by better quality auditors. The results of the multiple regression revealed that city-level auditor industry competence, longer audit tenure, and audit fees are linked to greater levels of real earnings management, but Big N auditors had a lesser relationship.

More so, Zgarni and Hlioui (2012) tested the effect of audit quality (Big 4 auditors, auditor industry specialization and audit tenure) on constraining the extent of real and accruals based earnings management in the Tunisian context. Using 319 firm-year observations during the period 2000-

2010, the study results suggested that auditor industry specialization and Big 4 auditors associated with lower levels of accruals earnings management. The study also found that the Big 4 auditors enhance the extent of real earnings management and that the longer auditor tenure is not associated with greater real and accruals earnings management.

Abbasiazadeh and Zamanpour (2016) analyzed the effect of audit size and on earnings management of 116 companies listed in Tehran Stock Exchange for the period 1387 to 1392 using multiple regressions. The study revealed audit size and audit tenure have significant correlations with real earning management. More so, Shawn, Lee, Jung and Moon (2016) confirmed whether abnormal CFO factors, that is, real activity earnings management (hereafter RAM) by Roychordhury model(2006), can be a proxy for the audit quality with comparing the size of RAM with existing proxies of audit quality such as auditors' size (e.g. big4), audit time and audit fee. The multivariate regression analysis results revealed that the size of RAM is positively correlated with some existing proxies of audit quality.

Eriabiea and Dabor (2017) investigated the impact of audit quality on earnings management. The study used a sample of all eighteen banks quoted on the stock exchange as at December, 2010 and data was gathered for the period 2005 to 2010. Audit quality is measured by using audit fees and auditor rotation, and abnormal loan loss provision is used to measure earnings management. The cross-sectional year by year regression analysis was performed and results showed that both audit fee and auditor rotation were positively related to abnormal loan loss provision. This suggests that high audit fee and change in auditor tenure will aggravate earnings management. Alhadab and Clacher (2017) investigated the relation between audit quality and the earnings management activities of IPO firms within the period of 1998 and 2008 and found evidence that high quality auditors constrain the use of real activities manipulation that occurs via the management of discretionary expenses. However, the presence of high quality auditors is not sufficient to constrain all forms of earnings management.

Jayeola *et al*. (2017) study examined relationship between audit quality and earnings management in Nigerian listed deposit money banks. The study adopted a longitudinal research design and secondary data covering a period of 2005-2014 were collected. Panel data technique was employed, while fixed and random effects model were used for estimation. The results of simple pooled OLS regression analysis showed that a significant positive relationship existed between joint audit and earnings management and a significant negative relationship existed between audit specialization and earnings management. Furthermore, a significant positive relationship existed between audit independence and earnings management but insignificant negative relationship between exit between audit tenure and earnings management.

For the period 2012-2016, a sample of 80 non-financial companies listed on the floor of the Nigerian Stock Exchange was used by Sani *et al*. (2018) to assess the impact of Big 4 on the real earnings manipulation. The results of a panel data regression reveal that Non Big4 auditors are more likely to mitigate real profits manipulation than big auditors because they have a better understanding of the local operating environment. Khanh and Khuong (2018) examined the effect

of audit quality and firm characteristics on real earnings management based on a large sample of 1687 firm-year observations on listed companies in Vietnam. Vietnam. Using the measurement of real earnings management of Roychowdhury (2006) and GMM estimator, the study notably found no difference between big 4 and non-big 4 in diminishing real earnings management in Vietnam. For the period 2009-2016, Zandi, Sadiq and Mohamad (2019) explored whether firms audited by big four auditors have superior financial reporting quality than firms audited by non-big four auditors in Pakistan for the period 2009-2016. According to the results of the regression research, the top four auditors have limited accrual-based earnings management efforts in corporations. Firms certified by the top four auditors, on the other hand, are more involved in costly real earnings management efforts.

Chowdhury and Eliwa (2019) evaluated the impact of audit quality on real earnings management using 4774 firm year observations of UK listed firm during the period 2005-2018. The univariate and multivariate analyses conducted depicted the presence of Big 4 auditors is significantly and positively related to aggregated measure of real earnings management.

Almarayeh *et al*. (2020) evaluated if certain audit quality attributes may be used to limit earnings management in Jordan, a developing country with a cultural, economic, and institutional setting that differs significantly from most previously studied countries. The regression technique was generalized least square regression (GLS), and the sample case study comprised industrial enterprises listed on the Amman Stock Exchange from 2012 to 2016. The data support the hypothesis that, given Jordan's institutional environment, auditor size and audit fees have no impact on earnings management. From 2012 to 2018, Awa and Obinabo (2020) used a panel data regression model to investigate the impact of audit quality on the earnings of listed manufacturing firms in Nigeria. The study discovered that auditor independence and audit firm size have a positive and significant impact on the earnings of listed industrial goods companies in Nigeria, but auditor tenure has a negative and non-significant impact on the earnings of listed industrial goods companies in Nigeria.

In the UK, Sitanggang, Karbhari, Matemilola, and Ariff (2020) looked into whether audit quality is linked to real earnings management. For a large sample of UK manufacturing enterprises from 2010 to 2013, a panel fixed effects method that adjusts for variability between firms was used to assess whether audit quality is related to real earnings management. The findings demonstrated that audit quality proxies had no correlation with aberrant production costs or the real earnings management index. On the other hand, Masoomeh, Ahmad and Fazel (2020) studied the effect of audit firm's characteristics on accrual and real earnings management by sampling 99 firms listed in Tehran securities & exchange, Iran. The multivariate regression analysis of the study showed audit firm independence, rotation, specialization and size have significant effect on real earnings management.

After the introduction of conveying Key Audit Matters (KAMs) in the UAE, Barghathi, Mirani, and Khan (2021) sampled auditors' perceptions of audit quality and EM. Thirteen auditors were interviewed in a semi-structured interview (six Big-4 and seven Non-Big 4 audit firms). The

research revealed that auditors have the audacity to admit client and audit company pressures that led to hidden abnormalities and EM practices that resulted in lower audit quality, particularly in non-Big 4 companies. Similarly, Khushboo (2021) explored the effect of audit quality on earnings management by sampling all Bombay Stock Exchange listed firms between 2010 and 2019. The findings of the study suggested Big 4 auditors constrain all forms of earnings manipulation while long auditor tenure is found to be aiding EM through accruals, hence impairing quality of audit. Zgarni and Chikhaoui (2022) explored the relationship between audit quality and real earnings management among Tunisian commercial banks within a period from 2006 to 2019. The result of regression indicated the presence of reputable auditors' confines real earnings management.

the effect of audit quality (Big 4 auditors, auditor industry specialization and audit tenure) on constraining the extent of real and accruals based earnings management in the Tunisian context. Using 319 firm-year observations during the period 2000-2010, the study results suggested that auditor industry specialization and Big 4 auditors associated with lower levels of accruals earnings management. The study also found that the Big 4 auditors enhance the extent of real earnings management and that the longer auditor tenure is not associated with greater real and accruals earnings management.

METHODOLOGY

So as to test the hypothesis of the effect of audit quality on real earnings management, the study adopted the model of Zgarni and Hlioui (2012) which is stated as:

Real earnings management = *f* (Audit Quality) ………………...……………………………….…. (3.1)

REM = f (AFS, AFE, AFT, AFI) ………………………………..…………………………………. (3.2)

$REMit = \beta_0 + \beta_1 AFS_{it} + \beta_2 AFE_{it} + \beta_3 AFT_{it} + \beta_3 AFI_{it} + \varepsilon_{it}$ …………………...………..…………. (3.3)

Where;
REM = Real Earnings Management
AFS = Audit Firm Size (A dummy variable 1 if the firm is audited by big 4 audit firm, 0 if otherwise and 2 for firm that is audited by two or more firms in a year)
AFE = Audit Firm Expertise (A dummy variable 1, if the audit firm market size (MS) is $\geq$ 20 %, 0 if otherwise)
AFT = Audit Firm Tenure (Number of consecutive year firm retain a particular audit firm. Dummy variable 1 for $\geq$ 3 years, 0 if otherwise)
AFI = Audit Firm Independence (Auditors' fees divided by firm revenue)
ε = Error term
β_0 = Intercept coefficient
A prior expectation = $\beta_0 > 0$, $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$, $\beta_4 > 0$;
In other to achieve the objectives of the study, audit firm independence (AFI) was added because it was found to be significant in the study of Almarayeh, Aibar-Guzmán, and Abdullatiy (2020); Abbasiazadeh and Zamanpour (2016); Li and Lin (2005).

In this study, the ex-post facto research design will be employed to examine how independent variables (auditor size, auditor expertise, auditor rotation, and auditor independence) affect dependent variable (real earnings management) and the source of dada for this study is secondary in nature sourced from the annual report of the sampled companies. The population of the study involves all 55 manufacturing companies listed on the floor of the Nigeria Stock Exchange as at 31st December, 2020. They cut-across 6 sectors namely; agriculture (5), conglomerate (5), consumer goods (20), healthcare (8), industrial goods (13) and natural resources (4) sector. The sampling technique considered for the study is purposive sampling technique. Hence, the sample size of the study is 38 manufacturing companies representing 70%.

Descriptive statistics is used to compute summary of the statistics of all variables used in the study. Before using the multiple regression analysis to analyze the data, some robustness tests such as pair-wise correlation and variance inflation factor (VIF) were conducted to enhance the reliability of the findings. In the study, panel data was used which comprised of data observed over time and across many firms and as such there is the tendency of individual differences. Therefore, in other to account for the individual differences, the ordinary least square method becomes inappropriate. However, due to the different cross sectional unit used in this study, variance is unlikely to be constant; hence, the cross-sectional time-series Feasible Least Square (FGLS) regression was used after conducting Hausman test.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive Statistics

Table 1 present the statistics summary of dependent and independent variables of sampled manufacturing companies in Nigeria.

Table 1: Summary Statistics

	Mean	Max	Min	Std. Dev.	Obs.
REM	.55292	2.2631	.00000	.37732	304
AFS	.64145	2.0000	.00000	.53866	304
AFE	.78947	1.0000	.00000	.40836	304
AFT	.73026	1.0000	.00000	.44456	304
AFI	.00248	.09113	.00000	.00625	304

Source: Author's Computation (2022)

From Table 1, the standard deviation signifies that the data deviate from the mean by value of .55292 which implies that REM among sampled companies does not relatively differ from one company to another and this variation affords to test the measures of audit quality. More so, evidence from the descriptive statistic result, it is revealed that sampled manufacturing companies were audited by audit firm associated with Big-4 with an average of .64145 (64%) and standard deviation of 0.53866. This could be because of their expertise and exposure. Similarly, Table 4.1 shows maximum value of 1.0000 and minimum value of .00000 while the mean and standard

deviation values are 0.78947 and 0.40836 respectively for audit firm expertise. The standard deviation signifies that the data deviate from the mean by value of 0.78947 and this implies relative wide dispersion of the data from the mean because the standard deviation is lesser than the mean value. The average value of audit firm tenure is 0.73026, standard deviation is 0.44456, maximum value of 1.00000, and minimum value of .00000 suggests majority of the manufacturing firms included in the sample are complying with the provision of CAMA, 2020 as amended. Finally, summary statistic table shows a value of mean .00248 and a standard deviation of .00625 for variable audit firm independence. This implies relative dispersion of the data from the mean because the standard deviation is higher than the mean value.

Multicollinearity Test

Both pair-wise correlation and variance inflation factors was conducted to determine whether there are bivariate relationship between each pair of the independent variables and also to portray if the correlations among the independent variables are high or not because the higher the figure, the greater possibility of multi-collinearity problems. It is clear from Table 2 that there is no perfect relationship between the different pairs of independent variables. Gujarati (2009) asserts that multi-collinearity becomes a serious issue when the correlation coefficient between two regressors is above 0.8. Similarly, Table 2 shows VIF and its inverse (technical tolerance) for all variables. By thumb's rule, every variable exceeding 10 is strongly collinear and vice-versa. From Table 2, all VIFs are below 10, which mean they are not collinear.

Table 2: Pair-wise Correlation and Variance Inflator Factor (VIF)

	AFS	**AFE**	**AFT**	**AFI**	**VIF**	**1/VIF**
AFS	1.0000				1.17	0.851484
AFE	.3609	1.0000			1.16	0.864655
AFT	-0.1296	-0.0593	1.0000		1.02	0.978528
AFI	-0.1309	-0.1177	0.0843	1.0000	1.03	0.972678
Mean VIF					**1.10**	

Source: Author's Computation (2022)

Model Estimation

Breusch-Pagan Lagrange (BP LM) was used to test for the presence of individual heterogeneity in order to decide the appropriate model between pooled model and random effect model. Since the null hypothesis is consistent with the assumption of the pooled model, the result of BP LM support the rejection of pooled model in favour of the random/ fixed effect model. More so, in order to choose between the fixed and random effect estimator, the Hausman test was carried out and the result of the test indicates that random effect is an appropriate estimator with a prob>chi2 = 0. 1201 which is greater than 0.05. Thus, the random-effects GLS regression was employed.

Overall, Table 3 reports the random effect result obtained by testing the association between independent variables (AFS, AFE, AFT and AFI) and dependent variables (REM). The Wald chi2 for model is 7.78 and the Prob>Chi is significant at 0. 0386 which is higher than critical F-value

of 1% and 5% significance levels. This suggests that this is a good predictive model of real earnings management behavior for the sampled manufacturing companies in Nigeria.

Table 3: Estimation Result (Random effect regression)

Real Earnings Management	Coefficient	Standard error	z	*p*-value
AFS	.0305507	.0431666	.071	0.014
AFE	-.0640888	.056506	-1.13	0.371
AFT	.0170802	.0487912	.035	0.441
AFI	-10.41136	3.483056	-2.99	0.003
C	.5972379	.0632558	9.44	0.000
Wald chi2 (4)	170.33			
p-value	(0.0386)			
Breusc-Pagan LM test	548.95(0.000)***			
Hausman test	7.32 (0.1201)			

***, ** and * indicate statistically significant at 1%, 5% and 10% significance level, respectively.

Source: Author's Computation (2022)

DISCUSSION OF FINDINGS

Based on the individual statistical significance, Table 1 disclose the influence of independent variable audit firm size (AFS) on the dependent variable real earnings management (REM) by suggesting a positive relationship between AFS and REM with .0305507 as coefficient and *p-value* of 0.014 which is significant at 5%. This indicates that the real earnings management is determined by type of auditors (big-4 or otherwise) engaged by sampled companies. This finding is in conformity with the a priori expectation and the study of Zgarni and Chikhaoui (2022); Masoomeh *et al*. (2020); Chowdhury and Eliwa (2021); Abbasiazadeh and Zamanpour (2016). These studies asserted that the presence of Big 4 auditors is significantly and positively related with managing real earnings. However, the study of Chi *et al*. (2011); Almarayeh *et al*. (2020); Sitanggang *et al*. (2020) revealed a contrary result. The finding led to the rejection of the null hypothesis (H_0) that audit firm size dimension of audit quality has no significant effect on real earnings management of selected quoted firms in Nigeria.

On the other hand, the relationship between REM and independent variable audit firm expertise is negatively insignificant with -.0640888 as coefficient and 0.371 as *p-value*. By inference therefore, an increase in engagement of auditors with industry specialization by sampled companies' results in increase in managing earnings. This negative and insignificant effect indicates that the finding do not conform to the *a priori* expectation. However, the null hypothesis (H_0) that audit firm expertise has no significant impact on earnings management of selected quoted firms in Nigeria is rejected. This is in line with the study of Sitanggang *et al*. (2020); Zgarni and Hlioui (2012); but contrary to the study of Masoomeh *et al*. (2020); Chi *et al*. (2011) that suggested the audit firm expertise positively correlated with real earnings management.

Furthermore, audit firm tenure is positively but insignificant related to real earnings management while audit firm independence is negatively but significantly related to real earnings management with coefficient value of -10.41136 and *p-value* of 0.003. This is indicating that audit firm independence does influence managers' financial statement choices on managing earnings. This has led to the acceptance of null hypothesis (H_{03}) but rejection of null hypothesis (H_{04}) that audit firm tenure and audit firm independence have no significant effect on real earnings management of selected manufacturing quoted firms in Nigeria. The findings of this study is tandem with the study of Zgarni and Hlioui (2012); Sitanggang *et al*. (2020) that found no relationship between audit firm tenure and real earnings management but not similar to the suggestion of Zgarni and Chikhaoui (2022); Masoomeh *et al*. (2020); Khushboo (2021). However, the partial relationship between audit firm independence and real earnings management is in consonance with study of Masoomeh *et al*. (2020); Li and Lin (2005); Zgarni and Hlioui (2012) but contrary to the study of Almarayeh *et al*. (2020).

In line with the theory that underpinned the study (agency theory) which suggested that monitoring mechanisms such as high quality audit reduce conflicts and align the interests of managers with the shareholders' interests and high quality auditors are expected to be more likely to detect the practice of earnings management.

CONCLUSION AND RECOMMENDATIONS

The findings of the study provided some interesting results regarding activities of manufacturing firms in Nigeria. Individually, based on the findings of this study, it is evidence that the presence of Big 4 auditors is significantly and positively related with real earnings management while real earnings management is likely to reduce when firms are audited by auditors with industrial specialization. More so, audit firm tenure (rotation) dimension of audit quality showed a positive but in significant effect on real earnings management of selected manufacturing quoted firms and audit firm independence has significant impacts on real earnings management. Therefore, the study concluded that auditors are not powerless in front of managerial opportunistic activities. The preparation of financial statement with less manipulation will enhance the confidence of stakeholders regarding the operations of manufacturing companies in Nigeria.

In view of the findings of the study, the following recommendations were made:

i. Management of manufacturing firms in Nigeria should persist in engaging experience audit firm with international affiliations, as this will reduce manipulation of earnings.

ii. Management of sampled manufacturing companies should persevere in engaging audit firm with verse industry knowledge and expertise.

iii. In order to reduce manipulation of earnings, manufacturing companies should work strictly with the CAMA, 2020 as amended by rotating audit firm after every three years as this will promote the reliability of financial statement prepared by management.

iv. Since there was significant relationship between audit firm independence and real earnings management, regulatory body should persist in enforcing auditors' independence to enhance the reliability of financial statement of companies.

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