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Research Article

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# Accrual and Real Earnings Management and Corporate Performance: Complementary Or Mutually Exclusive?

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**Abstract:** Earnings management has been a topical issue over the past few decades largely as a result of the collapse of many firms thereby raising doubts by users of financial reports about the truth and fairness of the reports and the extent of reliance that can be placed. Corporate governance was instituted to curb this malaise and ensure improved quality of reports. However, with introduction of corporate governance and tightening of regulation by regulators and standard setters with the aim of curbing management latitude in preparing financial reports and mitigating accruals earnings management, the question agitating the mind of researchers is whether earnings management has shifted from accrual earnings management to real earnings management or is jointly used and if so are they mutually exclusive or complementary to each other. The goal of the study is therefore to determine whether real and accrual earnings management is mutually exclusive or complementary using data from financial statements of firms listed on the Nigeria stock exchange for the period 2003 to 2023. Accruals earnings management was measured through the Modified Jones model while real earnings management was measured using production method. Corporate performance using Balance score card was measured by internal efficiency, customer loyalty, return on assets, Net profit margin, price earnings ratio and Tobiq. This was done to capture accounting, market and internal efficiency of the firms. Result indicate that AEM have positive co-efficient impact on Return on Assets and Net Profit Margin while REM have negative co-efficient implying increased REM decreases Return on Assets. The result however indicate that there is a trade-off between AEM and REM indicating that for ROA and Net profit Margin, the two earnings management strategies are mutually exclusive. For internal efficicency, Arm has negative co-efficient while REM has a positive co-efficient indicating that REM and AEM are mutually exclusive. For Price earnings ratio both AEM and REM have positive co-efficient thus demonstrating complementary effect. Discretional Accruals, and Real Earnings management have significant effects on customer loyalty although the effects are mutually exclusive. The findings of the research highlights the effect of Real and accrual earnings management could be mutually exclusive or complementary depending on the yardstick of measurement. We therefore recommend when firms are desirable of improving ROA to improve their financial position can adopt more of accruals earnings management. By adopting aggressive and manipulative measures, our study demonstrates that financial performance will improve for the firms. Net profit margin improves for firms that engage in accruals earnings management, but not for firms that engage in real earnings management.The study also provided evidence that it is real earnings management that improves internal efficiency in terms of overall resource use by manufacturing firms in Nigeria. This outcome therefore presents a dilemma to managers who want to improve both financial performance and internal efficiency simultaneously. We recommend earnings management should therefore be considered as a strategic adaptation rather than a deliberate manipulation strategy of management in order to drive long term performance, especially in relation to the market performance of firms. Accruals earnings management and real earnings management are complements in terms of market performance of firms. Thus, firms that seek to improve their market performance do not need to overemphasize the need to manipulate earnings in order to influence investors' decisions. These firms can as well employ real earnings management to generate the same outcome. Real earnings management improves customer loyalty. We recommend managers should improve real earnings management in order to improve their positions before customers. Results reveal that customer loyalty favors firms with real earnings management strategy necessitating minimization of costs of accruals earnings management over time.

**Keywords:** Earnings Management, Tobin Q, Price Earning Ratio, Internal Efficiency, Customer Loyalty, Return On Assets.

## INTRODUCTION

Financial reports provide a basis for evaluation of the performance and state of health of business entities. Various stakeholders rely on financial reports to make decisions. However, the collapse of many business concerns after the publication of huge profits drew the attention of stakeholders and raises doubt about the going concern value of an entity and its existence in perpetuity thereby questioning the reliability, relevance and essence of the going concern concept embedded in accounting reports. Financial reports are rendered unreliable, irrelevant and decisions based on manipulated reports are not objective Many empirical studies (Shittu, *et al*., (2020; Cheng, Lee, and Shevlin, 2016; Dechow & Skinner, 2000; Sevin & Schroeder; 2005; Kimura, & Yamaguchi, 2015; Absa, Ismail and Chandra, 2022 ) traced the anomaly to earnings Management**.** According to Schipper ,(1989) earnings management is the purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain . Healy and Wahlen, (199) earnings management involves managers use of judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers" . Leuz, Nanda, and Wysocki, (2003) defined earnings management as internal alterations that impact recording of economic performance in financial reports with the intent to alter contractual benefits or to mislead some stakeholders. According to Callao, *et al*.,'s (2014) earnings management is an intentional disruption of financial reports to achieve specific





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targets through variation of accounting methods. Earnings management occurs when managers within organizations use accounting methods and techniques to present a distorted number of their company's earnings (Beneish, 2001). Many researchers, including Dechow & Skinner (2000), have demonstrated that the self-interested modification of earnings undermines the quality of earnings, as well as the degree to which financial reports are credible. Furthermore, according to Sevin & Schroeder (2005), opportunistic earnings management serves the interests of managers at the expense of stakeholders. However, it can take place without necessarily violating accounting regulations by taking advantage of the possibilities of choice in accounting policy. Fraud violates accounting principles but EM may not (Dechow & Skinner, 2000; Ronen & Yaari, 2008 ). Also, as noted by Howe (1999) there is a likelihood that firms will switch to fraud when earnings management opportunities are exhausted. This line of thinking is further buttressed by Perols and Lougee, (2011) firms that commit fraud are found to have pepetrated EM in prior years although it is not path dependent. The negative impacts of earnings management revebrates globally. For example, in Nigeria the failure of banks (Oceanic, intercontinental, skye, Crystal, Allstates Trust bank), African Petroleum and Cadbury were attributed to insider abuse and accounting manipulations. In developed countries 2001 Enron bankruptcy, Tyco, Xerox and Worldcom and others were attributed to improper financial reporting. These accounting manipulations has the same motive as fraud in impacting earnings and financial reporting quality of firms. Further EM actions create information asymmetry, mislead stakeholders, causing them to make decisions on the basis of financial reports that they would not have made when given accurate information.

Many empirical studies (Cohen, Dey, & Lys, 2008; Enomoto, Kimura, & Yamaguchi, 2015; Ferentinou & Anagnostopoulou, 2016; Healy & Wahlen, 1999; Roychowdhury, 2006) on the subject of earnings management has been carried out globally. However, it is still a hot topic largely due to the continual failure of firms after stiff regulations, revision of standards and corporate governance initiatives aimed at curtailing earnings management practices. Further, empirical studies on the subject continue to dissect many perspectives to earnings management and researches produce diverse results coupled with emergence of new earnings management strategies and shifting of methods by Managers to endure regulations and continue in the practice of EM. Furthermore, Prior studies examined whether earnings management is connected to specific events or incentives. Examples of such events and incentives include maximizing of management compensations, raising the prices of equity offers, avoiding violating debt covenants, meeting specific target, manipulation of reports to prevent reporting losses and avoiding anti-trust violations(Razzaque, Ali, & Mather, 2016; Ding, Li, & Wu, 2018; Subramanyam, 1996;DeFond & Park, 1997; Gang, Zezhong, Travlosand Hong, 2007. AL-Fayoumi,Abuzayed and Alexander (2010); Healy, 1985; Bhojraj, *et al*., 2009; DeAngelo, 1986; Jones, 1991; Cahan, 1992; Defond & Jiambalvo, 1994; Teoh, *et al*., 1998; Mahdavi, Ardekani, Younesi,Hashemijoo, 2012; Tang, *et al*., 2015)

To ameliorate the malaise of earnings management, restore relevance and reliability of accounting reports; corporate governance, stiffer accounting rules and regulatory oversights were heightened. Audit committees and internal control were institutionalized to enhance good governance of business entitles while external auditors were saddled with duty of care to ensure truth and fairness of financial reports. Regulators and standard setters tightened accounting rules to curtail the latitude given managers in choice of accounting methods all with objective of ensuring good accounting practices that enhances quality of accounting reports. For instance some studies ( Khoo and Ahmad-Zaluki, 2015; Wan Ishmail, Zijl, and Dunstan, 2013; Enomoto, *et al*., 2015; Ferentinou & Anagnostopoulou, 2016; Ipino & Parbonetti, 2017) has shown that the implementation of international financial reporting standards mitigate accrual earnings management. Furthermore auditors scrutiny has also been fingered to cause discomfort in use of accrual earnings management (Commerford, *et al*., 2018; Chi, Lisic, and Pevzner, 2011). Jensen and Mecklings (1976 postulated that managers will deviate from the original objectives to pursue self motivated and opportunistic actions and misaligned objectives with that of the principal thus good corporate governance initiatives aimed at reducing management latitude and ensure goal congruence is a neccesity. This in turn will ensure compliance to standards and prevent earnings falsification. However, despite these initiatives companies continue to fail raising further debate



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and questioning the effectiveness of these strategies.

The earning management literature recognizes two strands of earnings management namely real and accrual earnings management. These methods of earnings differ in many ways.First Managers enjoy the flexibility of choice of accounting principles and methods without impacting cashflow while real earnings management decisions impact operational cash flows (Shittu, *et al*, 2020; Absa, Ismail and Chandra, 2022; Roychowdhury, 2006). Further, the practise of accrual earnings management can easily be discovered by auditors when subjected to audit scrutiny whereas real earnings management is carried out through normal business operations and can easily evade auditors discovery(Gunny, 2010). Also, accrual earnings management operate within timing constraints creating uncertainties which changes will be acceptable to auditors whereas real earnings management can be executed through the year as a normal operational activity ( Barton & Simko, 2002) In sum Managers exercise control over real earnings management during the course of operational decisions whereas auditors are the final arbiter in accrual earnings management. However, manager can choose from either of the two methods AEM or REM or both. First managers can manipulate earnings through accounting choices and discretions refered to as accruals earnings management (Absa, Ismail and Chandra, 2022; Shittu, *et al.*, 2020; Holland and Ramsay, 2003; Jones, 1991; McNichols and Wilson, 1988). Secondly, management can manipulate earnings through normal operational activities of the business such as cut in advertising(Bushee,1998), research and development (Dichev, Graham, Harvey, and Rajgopal (2013; Bereskin *et al*. (2018), increase production and generous discounts(Rowchurry, 2006), and reduction in trainig costs. This strategy is refered to as real earnings management. The motives for accrual and real earnings management may be similar but the oppurtunities and consequences may be different. While management have the opportunities to manage earninmg they are constrained by certain factors such as high cost. For instance, Zang, (2012) revealed managers switch from accrual earning management to real earnings management when the cost of accrual earnings management is more than the expenses of real earnings management. Further, regulatory scrutiny and tightening of standards can cause a switch from AEM to REM . Thirdly, auditors are more likely to detect accrual earnings management than real earnings management and when managers come under scrutiny they are more likely to switch to accrual earnings management (Burnett, *et al*., 2012; Li, *et al*., 2020; Jiang, 2018, Commerford, *et al*. 2018; Chi, Lisic, and Pevzner, 2011; Kim and Seok,2014 ;Commerford, *et al*., 2016;). Executives may prefer to handle profits through real earnings management because REM is more ethical and acceptable than AEM (Bruns and Merchant,1990).The weakeness of internal control also offers an opportunity for more use of real earnings management (Chi, Lisic, and Pevzner, 2011; Jarvinen and Myllymaki, 2015). Also, an opportunity for the switch from accrual to real earnings management must exist (Ahearne, *et al*., 2016). Such opportunities include sales personnel receive cash-flow incentives, (2) finance functions make REM-related decisions, (3) companies are publicly traded.

Management influence can impact real earnings management activities in a firm. The higher the power of chief executive and the finance team the greater the opportunities to implement real earnings management. Therefore understanding the function of management and where the overbearing influence resides and how the firm rewards sales staff is crucial in examining the risk of real earnings management. It is essential to decipher that an overbearing accountant can indulge in accrual earnings management solely and in secret by modification of estimates while real earnings management must be carried out by multiple personnel when there is necessity to reduce expenditure

The issue of which method is employed by managers therefore attracts attention of researchers, regulators and stakeholders.These throw up new issues . First, prior studies focused mainly on accrual earnings management(Holland and Ramsay, 2003, Jones, 1991, McNichols and Wilson,1998). Talbi, Omri, Guesmi, and Ftiti (2015) pointed out that previous studies have mostly focused on AEM, whereas REM has remained largely unexplored area Secondly, management reactions to tightening of standards were examined **(**Enomoto, *et al*., 2015; Ferentinou & Anagnostopoulou, 2016; Ipino & Parbonetti, 2017**).** While corporate governance initiatives and legislations are embedded in the core issues of accrual earnings management to mitigate managers use of accrual techniques for earnings management, there is emerging findings



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from contemporary research that managers are moving away from accruals earnings management and adopting more strategies of real earnings management practices thus rendering corporate governance legislations ineffective. Consequently, these issues ignited a slew of studies **(**Absa, Ismail and Chandra, 2022; Beyer, *et al*., 2018; Ho, Liao, & Taylor, 2015; Malik, 2015; Michelson, 2014; Zang, 2012; Chi, Lisic, & Pevzner, 2011; Cohen & Zarowin, 2010; Cohen, *et al*., 2008; Roychowdhury, 2006; Graham, *et al*., 2005) on real earnings management and the context of shifting dynamics from accrual earnings management to real earnings management.

There is therefore an ensuing debate on the subject with two propositions. Some researchers (Cohen, Dey and Lys, 2008; Cohen and Zarowin, 2010; Zang, 2012; Mizik and Jacobson, 2007), Lemman, *et al*, 2018; Chen, *et al*, 2012; Li, 2019) suggests that accrual earnings management can be used complementarily with real earnings management. Other reserachers ( Barton, 2001; Zang, 2007; Lemma, *et al*, 2018; Larsmana and Yang, 2014; Zang, 2012; Rahman, *et al*, 2016) proposes that the two earnings management strategies are mutually exclusive implying the use of accrual earnings management automatically precludes the use of real earnings management and vice versa. Some studies even suggest that managers no longer utilize accrual earnings management but a complete switch to real earnings management.(Nia, Sinnadurai, Sanusi and Hermawan, 2017; Graham, Harvey and Rajgopal, 2005).

Although earnings management has been explored by multiple researchers in the literature, almost all studies have focused on developed stock markets as the research setting. Hence, few findings are directly applicable to the context of developing economies like Nigeria. This study is situated in Nigeria**.** The Nigerian institutional environment is straddled with features that promote rather than mitigate earnings management. Poor regulatory oversight, weak corporate governance in most institutions, poor adherence to standards, weak capital market, and, weak legal framework and enforcement of laws with delayed adjudication in cases before the law courts. The key point to decipher about this institutional environment is that it has created opportunities for managers to engage in earnings management, an issue which is prevalent in Nigeria. The important consideration is the distinctiveness of the Nigeria institutional context when compared to other research settings, thus necessitating the publication of research findings specific to this setting. However, a review of literature on the emerging issue of shifting dynamics in earning management between accrual and real earnings management in Nigeria revealed paucity of research in this area with one notable research being carried out by Shittu, *et al*, 2020 on effect of real earnings management on firm value which did not address the controversy on the complementary and mutually exclusive hypotheses postulated on the subject. This study therefore fills the identified gap and examine whether real and accrual earnings management are complementary or mutually exclusive in Nigeria manufacturing firms.

## 2.0 LITERATURE REVIEW

### 2.1 Conceptual Framework

According to Creswell, (2003) conceptual framework can be achieved through division, mapping and explanation of concepts and the relationships amongst variables. The conceptual framework facilitates decisions on research scope and gap identification to help the researcher plug the gaps identified. The conceptual framework for this study is depicted below in a conceptual figure.





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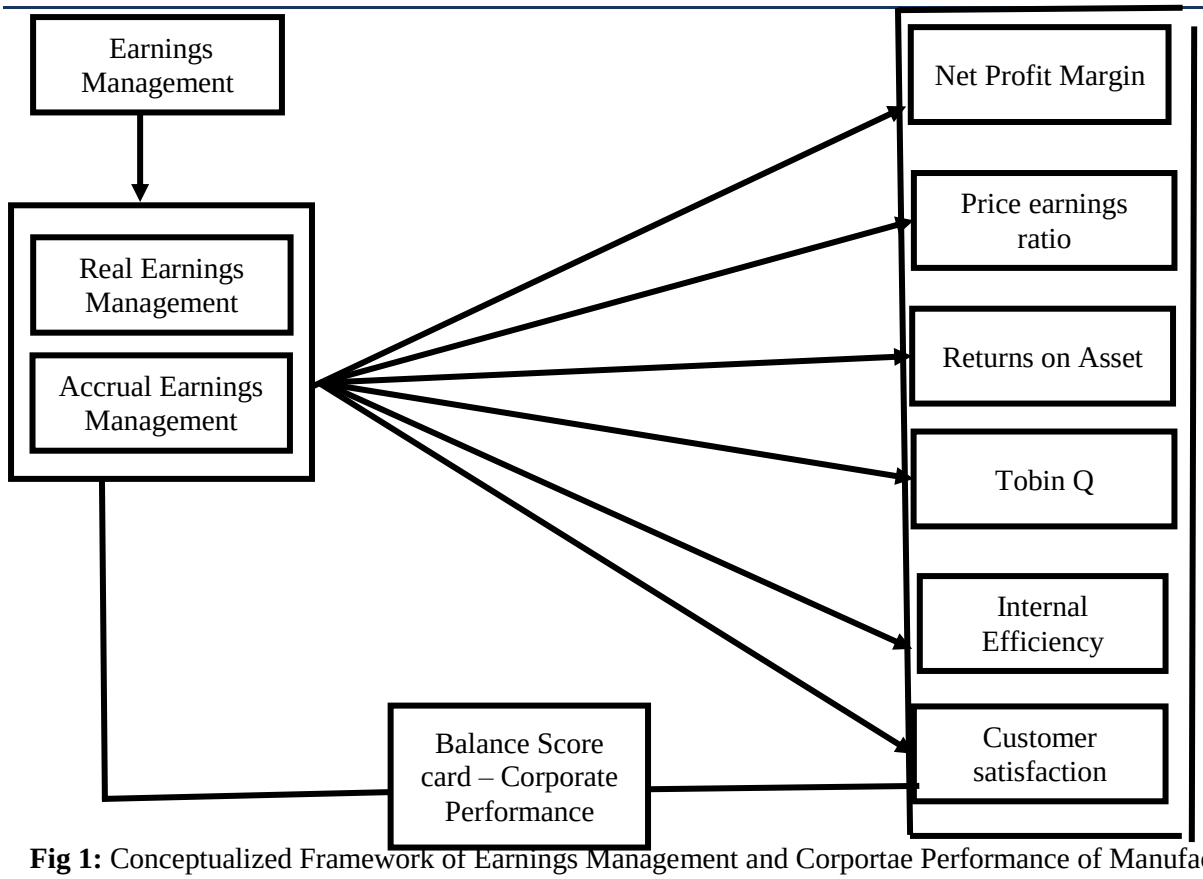


**Fig 1:** Conceptualized Framework of Earnings Management and Corportae Performance of Manufacturing Firms in Nigeria

**2.1.1 Earnings Management**

**2.1.1.1 Accrual Earnings Management**

Discretionary accruals refer to the portion of total accruals that can be manipulated easily by managers hiding behind accounting rules and principles. That portion of total accruals is not incurred in the ordinary course of business activity and is not directly discernible but has impact on the quality of earnings. In Literature, many researchers have given considerable attention to the study of accruals because they hold the belief that accruals are a key tool of earnings' manipulation, hence their interests in estimating accruals precisely (Acar & Yilmaz, 2020). Discretionary accruals do reflect the true value of the financial performance of the organisation; hence, this sometime is not reliable resource to use as a tool for financial decision-making factor. This practice may misguide the stake holders while making financial decision. If the managers' opportunistic behaviour is avoided, the practice of discretionary accruals may create reliable financial report, hence, may help in right decision making to the investors and shareholders (Chang, *et al*., 2010). The implications of discretionary accruals can have impact on stock markets.

**2.1.1.2 Real Earnings Management**

The concept of real earnings management (REM) was first introduced by Schipper (1989). Specifically, he described real earnings management as a process of timing financing or investment decisions to manipulate reported earnings. Real earnings management involved real business activities whose effect is directly linked to operating cash-flows. Similarly, Ewert and Wagenhofer (2005) described real earnings management as variations in the structure of real business activities aimed at altering earnings. Roychowdhury (2006) also defined real earnings management as deviation from usual operating practices, driven by managers need to deceive some stakeholders into trusting that some specific financial reporting objectives have been achieved in the course of normal operating activities.

In view of the definitions given above, it can be deduced that real earnings management modifies earnings through the mechanisms of timing of real business activities decisions such as operating, investing or financing activities in line with the pre-determined earnings. These decisions have a direct effect on the operational cash flows and ultimately on the earnings. Dichev, Graham, Harvey, and Rajgopal (2013) earnings are often managed using real actions such as cutting R&D,



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maintenance expenses and marketing expenditures and these cuts are value-decreasing (Graham, *et al*., 2005). However, empirically distinguishing between business-driven economic reasons to cut spending vs. opportunistic cuts aimed at hitting earnings targets is difficult for an outside analyst

### 2.1.3 Corporate Performance

Performance provides a yardstick for evaluation of how well a business operates and helps in the determination of efficiency of Management in achieving objectives of shareholders and providers of capital. It also provides a basis for evaluation of how well the business satisfy various stakeholders. There are many methods of measuring performamce such as returns on assets, returns on equity, Net profit margin, returns on investment and various financial ratios based on historical costs which provide a basis of evaluation of different spectrums of the financial well being of an entity. However, apart from the historical basis of performance valuation there is also market based measures which is a reflection of the market and is argued to be futuristic such as Tobin Q. However, for the purpose of this study we adopt the Balanced scorecard which is further broken down into financial perspective (Net profit margin, returns on equity, returns on asset). internal efficiency, customer loyalty and the market measure of price earnings ratio and Tobin Q.

## 2.1 Theoretical Framework

The concept of earnings management are succinctly captured by agency conflict, signalling theory and positive accounting theory. First agency theory postulated by Jensen and Mecklings, (1976) envisaged misalignment of interest between agents and principal. The agents are purported to pursue opportunistic and selfish goals thereby neglecting the objectives of that of the principal who are the owners of the business. This misalignment can be corrected theough monitoring and supervisory functions and increased compensation. However, the manipulation of earnings which is an agency conflict can be motivated by diverse reasons such as bonus compensation, positive outlook of the firm, defaults in debt coventants, tax aggressiveness etc. On the otherhand Signalling theory (Spence, 1973) highlights the communication function of reporting to stakeholders and the message Managers intend to communicate. Managers are in possession of superior information and choose to communicate what they feel depending on motive. This creates information asymmetry between the managers and stakeholders. When Managers want to create a positive outlook or stability of earnings bloated earnings are reported in the financial reports however they can conversely delay communication of bad news or falsify poor earnings to reflect good earnings. Thus according to signalling theory, motives and the type of signal the Managers want to communicate encourages earnings management. Postive accounting theory (Watts and Zimmerman, 1970) identified three motives of earnings management. First, the bonus compensation hypothesis which states that managers whose compensation are tied to earnings are likely to massage earnings to earn more bonuses. The second hypothesis recognizes that debt covenants can encourage earnings management when firms are close to violation of debt covenants. Thirdly, the political cost hypothesis which states that size can draw attention of regulators and managers may misreport to avoid political costs. These theoretical predictions are relevant to this study because Managers in manufacturing companies in Nigeria are paid bonuses in relation to performance, are saddled with the stewardship function and therefore required to report on their activities to shareholders. This offers a veritable ground for agency conflict where Managers can take sub-optimal decisions to further their interests or falsfily earnings report to increase compensation. Further, many manufacturing firms borrow to finance their operations and the economic instability in Nigeria and declining earnings can prompt debt covenant violations which in turn can energize manipulation of earnings to meet earnings benchmark. Also, some manufacturing firms finance their operations through public offerings and sale of shares this could also be a motivation to falsify reports to send positive signals to the market about the viability and earnings of the entity.

## 2.2 Empirical Review

The concept of earnings management has been widely explored and debated by prior studies. These studies mostly focused on accrual earnings management while the prevalence of real earnings management was not vigorously examined until recently. The study of real earnings management however was energized by the work of Graham, *et al*., (2005) who found that 80% of executives interviewed were willing to reduce expenditures such as research and development and maintenances cost to meet earnings target, ignore projects with positive net streams of income to meet short term targets even if such will have negative effects in future. The results of the study



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showed a change from accrual to real earnings management. However many other studies have been conducted on the subject of accrual and real earnings management. It was however the work of Roychowdhury, (2006) which captured measurement yardsticks and models for real earnings management The study showed the effect of real operations better than accruals using cash flow from operations, production costs, and discretionary expenses as measures of real earnings management. Evidence verifies that, in order to avoid losses, firms increase sales by offering price discounts, lower cost of goods sold by engaging in overproduction, and improve margins through reducing discretionary expenses.

Cohen, *et al*., (2008) investigated the incidence of both accrual-based and real earnings management in the pre- and post-Sarbanes Oxley (SOX) periods to trace whether the passage of SOX resulted in a reduction in earnings management. The findings confirm a decline and a switch from accrual earnings management to increases in real earnings management after introduction of Sox indicating that stiff corporate governance initiatives and regulations motivate change from accrual to real earnings management.

Gunny, (2010) determine effect of real earnings activities on performance revealing that real earnings management is positively associated with firms meeting earnings targets. Firms engaging in real earnings management to just meet earnings targets have relatively better subsequent performance than firms that do not engage in real earnings management and miss or just meet the target. The results support the hypothesis that engaging in real earnings management is not opportunistic, where it allows attaining current period benefits and achieving better future performance.

Cohen and Zarowin, (2010) examined trade-off between real versus accrual methods earnings management around seasoned equity offerings (SEOs) andconfirmed firms use real, as well as accrual-based, earnings management around SEOs. The study also found firms substituted accrual by real EM after regulation by SOX. Also, such tendency for firms to trade-off real versus accrual-based earnings management activities vary cross-sectionally. The variations in choices of either AEM or REM depends on the opportunity to use accrual AEM and the associated cost c.

Zhang (2008) investigates whether firms have incentives to opportunistically manipulate real activities to meet analysts' cash flow forecasts and the economic consequences of such manipulation. In line with prior studies' findings, evidence verifies that firms just meet cash flow forecasts engage in higher real activities manipulation to inflate cash flows, as compared to other firms with cash flow forecasts.

Chi, Lisic, and Pevzner, (2011) examined whether firms resort to real earnings management when their ability to manage accruals is constrained by higher quality auditors. In settings involving strong upward earnings management incentives, i.e., for firms that meet or just beat earnings benchmarks and firms that issue seasoned equities, the study found that city-level auditor industry expertise and audit fees are associated with higher levels of real earnings management. Study also found similar, albeit weaker, results for the Big N auditors. Jungeun, Jaimin, and Jaehong, (2012) reported that AEM practices decrease, while REM practices increase after a financial crisis. They attributed this to the pressure of shifting from internal to external markets in financing sources, thus increasing the demand for more transparent financial information by capital market followers Zang, (2012) examined whether managers use real activities manipulation and accrual-based earnings management as substitutes in managing earnings and found managers trade off the two earnings management methods based on their relative costs and that managers adjust the level of accrual based earnings management according to the level of real activities manipulation realized.

Sellami and Fakhfakh, (2013) documented a negative association between IFRS adoption and earnings management (both accrual and real).

Achietner, (2014) examined effects of family firms on real earnings management and accrual-based earnings management of German firms for the period 1998-2008 . Result confirmed that family firms engage less in REM and exhibit more earnings-decreasing accrual earnings policies when compared to non-family firms thus providing evidence that family firms as compared to non-family firms treat REM and AEM as substitute rather than complementary tools for earnings management . Michelson (2014) investigates whether capital market pressure influences the degree to which firms engage in accrual-based and real earnings management using public and private firms from 13 countries within the European



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Union on the basis of eight earnings management measures for the years 2006-2015. The results suggest that private firms manage their earnings more and display lower quality earnings than their public counterparts. This appears to be the case for accrual-based as well as real earnings management.

Alhadab, *et al*. (2015) provided evidence that companies during the IPO year used both earnings management techniques to upward earnings. Ho, *et al*., (2015) carried out a similar study with the aim of investigating the existence of both AEM and REM in pre- and post-IFRS adoption for Chinese A-share firms. They reported that Chinese firms turned to REM as an alternative method for upward earnings manipulations in the period after IFRS adoption. Cheng, Lee, and Shevlin, (2016) Using the number of years to retirement to capture key subordinate executives' horizon incentives and using their compensation relative to CEO compensation to capture their influence within the firm found that the extent of real earnings management decreases with key subordinate executives' horizon and influence/ Ipino and Parbonetti, (2017) examined whether the use of REM was more than AEM after the adoption of IFRS in companies distributed in 33 countries for the period from 2000 to 2010. Their results showed that companies substituted REM for AEM after IFRS adoption.

Li, (2019) also found that firms simultaneously used both tools of earnings manipulation, rather than a trade-off between them; using both AEM and REM together is also significantly associated with a higher return on the stock. Shittu, *et al*., (2020) assesses how Real Earnings Management (REM) affects firm's value ofseventy six non-financial firms listed 0n Nigeria Nigeria stock exchange for the period 2010 Abnormal discretionary expenses had positive and significant influence on firm value, while abnormal operating cash flow and abnormal production costs had no significant effect. Return on equity and firm growth had no significant impact on the firm's value. However, leverage and firm size have a positive influence on firm value. Absa, Ismail and Chandra, (2022) examine the association between real activities earnings management (REM) and accruals earnings management (AEM) of listed companies in Malaysia. Results provide evidence of a significant positive relationship between REM and AEM, which supports the complement hypothesis.

## METHODOLOGY

### 3.9 Variables

### 3.9.1 Independent variables

The independent variable in the study is classified into accrual based earnings management (AEM) and real based earnings management (REM).

**Accrual Based Earnings management**

Many studies have employed different models in measuring accrual-based earnings management (Akhgar, 2015; Arkan, 2015; Beslic, Beslic, Jaksic & Andric, 2015). Literature review has shown that the modified Jones model (1991) is the most favored model when measuring accrual-based earnings management, which is consistent with the study of Dechow and Skimmer, (2000). For the purpose ofthis study therefore, the modified Jones model, (1995) was adopted to measure accrual-based earnings management (AEM). This was achieved through the following steps:

1. Calculating the total accruals by equation:

$$TAC_{it} = NIi_{t} - CFO_{it}$$

Where;
$TAC_{it}$= Total accruals of firm i in year t,
$NI_{it}$= Net income of firm i in year t,
$CFO_{it}$= Operating cash flow of firm i in year t.

The study used the parameters of the modified Jones model (1995) through the linear regression model of the sample of selected companies for each year in calculating discretionary accrual as follow:

$$\frac{TAC_{it}}{A_{it-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{it-1}}\right) + \alpha_3\left(\frac{PPE_{i,t}}{A_{it-1}}\right) + \varepsilon_{it}$$

where:

$TAC_{jt}$ = Total accruals
$Ai_{t\_2}$ = The hook value of total assets for company i in year t-1,
$A\ REV_{it}$ = The change in revenue for company i between year t and year t-1.
$A\ REG_{it}$ = The change in account receivables for companyi between year t and year t-1,
$PPE_{jt}$ = The total property, plant and equipment of company i in year t,
$^{n}o.r.2.3$ = Estimated parameters.





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$E_{it}$ =The residuals

And by applying the model above on the companies under consideration for each year of the study (2007-2016), the non-discretionary accruals were then calculated using the equation:

$$\frac{NDAC_{it}}{A_{it-1}} = \hat{\alpha}_1\left(\frac{1}{A_{it-1}}\right) + \hat{\alpha}_2\left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \hat{\alpha}_3\left(\frac{PPE_{it}}{A_{it-1}}\right)$$

Where;

$^{N\,DAC}$ = The non - discretionary accruals to gross assets for company i in year t

**Real Activity Earnings Management**

Real activity-based earnings management (REM): Roychowdhury, (2006); Zang, (2006) and Gunny, (2005) considered three measures in studying the degree of real earnings management: the cash flow from operating activities abnormal levels, expenses discretionary in nature and costs of production. In this study, cost of production measure was used as a degree of real earnings management and the following model was used to estimate the level of production costs.

$$\frac{PROD_{it}}{TA_{it}} \quad \alpha_0 + 1 \quad + \quad \alpha_1 SALES_{it} \quad + \alpha_2 \Delta SALE_{it-1} \quad + \quad \alpha_3 \Delta SALESit\text{-}2$$

$TA_{it-1}$ = is total assets for firm i year t-1

$PROD_{it}$ = is sum of cost of sales and change in inventory during the year for firm year t

ΔSALE it = is sales for firm i year t

ΔSALE it-1 = is change in sales for firm i from year t-1 to year t

ΔSALESit-2 = is change in sales for firm i from year t-1 to year t-2

**Dependent Variable**

The dependent variables represent the measure of firm performance that may be influenced by earnings management. In line with the Balanced Scorecard (BSC) framework, accounting and market performance measures we adopt he following variables as measures of firm performance. For financial measures of performance we adopted Net profit Margin, Retun on Assets, and for market performance we adopted Price earnings ratio and Tobin Q. For customers perspective to the balance scorecard we adopted customer loyalty and for internal processes we adopt inventory turnover.The measures of these depent variables are summarized on the table below:

| Independent Variable | Measurement | Expected Sign |
|---|---|---|
| Accrual Earnings management | Modified Jones Model 1995 | Negative |
| Real Earnings Management | cost of production measure<br>changes in sales divided by total asset (Roychowdhury (2006), Zang (2006) and Gunny(2005) | Negative |
| **Dependent Variable** | | |
| Net Profit Margin | **Net profit for the period X 100**<br>**Sales Revenue** | Positive |
| Return on Assets | Net Profit<br>X 100<br>Total Assets | Negative |
| Tobin Q | **Tobin Q (TQ)** = ratio expresses the relationship between market value | positive |





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| | | |
|---|---|---|
| | of a firm and the cost of replacing the asset.<br>We adopt Chung and Pruitt's approximating formulation of Tobin's Q = MVE + PS +DEBT/TA | |
| Internal Efficiency | efficiency ratio of Inventory Turnover which measures the efficiency in the utilization of financial resources of the organization thus:<br>**Inventory Turnover (IT)** = **Cost of Goods Sold**<br>**Average Inventory** | Positive |
| Price earnings ratio | **P/E ratio =** Market price per share<br>Earnings per share | Negative |
| Customer satisfaction | customers' loyalty with percentage change in sales revenue growth which was measured as:<br>**Sales Revenue for the current year + Sales Revenue for the previous year X 100**<br>**Sales Revenue for the previous year** | Positive |

**Model Specification**

To examine the effect of earnings management on corporate performance with Corporate governance as moderating variables, the study modifies the model in the works of Idris and Suleiman, (2019) and Inyiama, (2013). We denoted the variables as AEM for Accrual earnings management, REM for Real earnings management, NPM for Net profit margin, ROA, for returns on asset, PER for price earnings ratio, INE for internal efficiency, CUL for customer loyalty. Based on this the model specification for the various model of the study is as stated below

$ROA = \beta_0 + \beta_1 AEM + \beta_2 REM + U_1,t$……. (vi)

$NPM == \beta_0 + \beta_1 AEM + \beta_2 REM + U_2, t$

$PER = \beta_0 + \beta_1 AEM + \beta_2 REM + U_3, t$……..... (vii)

$TBN = \beta_0 + \beta_1 AEM + \beta_2 REM + U_4, t$…....…. (viii)

$INE = \beta_0 + \beta_1 AEM + \beta_2 REM + U_5,t$….....…. (ix)

$CUL = \beta_0 + \beta_1 AEM + \beta_2 REM + + U_6,t +$

Where $\beta_0$ are the regression intercepts and $U_1t$, $U_2t$, $U_3t$, $U_4t$ are the autoregressive coefficients or persistence terms.

## RESULTS

**4.2 Descriptive Statistics**

From result on table 2 Returns on assets mean average is 0.06 with maximum of 6.17 and a minimum of negative 10.19 indicating low return on assets and inefficiency of management in utilizing resources. Standard deviation value is 0.67 which is greater larger than mean value, suggesting high variation in ROA of the firms. The high negative skewness value depicts many firms sampled had ROA values greater than mean value. Average net profit margin is 0.07, also indicating low financial performance of the firms.

**Table 4.1:** Descriptive Statistics of the Panel Data for Firms

| Variable | Mean | Max. | Min. | S.D. | Skewn. | Kurt. | J-B | Obs. |
|---|---|---|---|---|---|---|---|---|
| ROA | 0.06 | 6.17 | -10.19 | 0.67 | -6.66 | 151.24 | 384001.2(0.00) | 416 |
| NPM | 0.07 | 5.96 | -2.87 | 0.61 | 4.58 | 46.26 | 33891.4(0.00) | 416 |
| PER | 15.08 | 1284.0 | 0.02 | 76.27 | 14.52 | 223.03 | 853801.0(0.00) | 416 |
| TOBIN_Q | 14.03 | 1211.4 | 0.17 | 71.94 | 12.22 | 209.19 | 857242.0(0.00) | 416 |
| INE | 22.11 | 4212.2 | -11.41 | 259.92 | 14.68 | 219.73 | 829099.9(0.00) | 416 |
| CUS | -4.60 | 1.00 | -898.19 | 61.69 | -14.28 | 205.35 | 723852.0(0.00) | 416 |
| AEM | 11.37 | 18.41 | 5.94 | 1013.20 | -0.02 | 2.60 | 2.81 (0.24) | 416 |
| REM | -0.67 | 90.85 | -191.37 | 13.34 | -10.54 | 158.21 | 425273.9(0.00) | 416 |

From the table, mean of NPM is 0.07 and PER 15.08 while standard deviation show variation at 0.61 and 76.27 respectively percent. The kurtosis for performance variables is large implying extreme values among the firms. Average Tobin's Q for the firms is 15.08 percent, which is close to the NPM value and suggests a relatively high performance in terms of significance in the market. The table depicts low Tobin's Q ratios for certain years (with minimum of 0.17), while some other firms had values up to 71.94 percentage points. Average internal efficiency measure is at 22.11 percent, which is relatively low, while average





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customer loyalty measure is -4.6, indicating an average loyalty score that is essentially low.

The J-B statistics passed the significance tests at the 1 percent level indicating datasets are non-normality distributed and heterogeneity . The non-normal distribution shows strong firm-specific influences on the outcome of each of the performance.

Average discretionary accruals is 11.37 with a maximum of 18.14 and minimum of .94. The standard deviations indicate significant difference from mean value. However, average real earnings management (REM) is -0.67, although the standard deviation score of -10.2 indicates high variability.

**Table 4.3:** Correlation Matrix

| Variable | AEM | REM | RPT | ROA | NPM | PER | TOBIN_Q | INE | CUS |
|---|---|---|---|---|---|---|---|---|---|
| AEM | 1 | | | | | | | | |
| REM | -0.02<br>(0.74) | 1 | | | | | | | |
| ROA | 0.05<br>(0.30) | -0.25<br>(0.00) | 0.07<br>(0.17) | 1 | | | | | |
| NPM | 0.09<br>0.07 | -0.03<br>0.54 | 0.07<br>0.13 | 0.13<br>0.01 | 1 | | | | |
| PER | 0.07<br>0.14 | 0.01<br>0.87 | 0.05<br>0.27 | -0.01<br>0.77 | -0.08<br>0.08 | 1 | | | |
| TOBIN_Q | 0.07 | 0.01 | 0.05 | -0.01 | -0.08 | 0.98 | 1 | | |
| | 0.14 | 0.87 | 0.27 | 0.77 | 0.08 | 0.00 | | | |
| INE | -0.04 | 0.00 | -0.03 | 0.00 | 0.00 | -0.01 | -0.01 | 1 | |
| | 0.41 | 0.94 | 0.49 | 0.92 | 0.97 | 0.88 | 0.88 | | |
| CUS | -0.02<br>(0.68) | 0.59<br>(0.00) | 0.04<br>(0.36) | 0.00<br>(0.99) | -0.24<br>(0.00) | 0.00<br>(0.97) | 0.00<br>(0.97) | 0.01<br>(0.91) | 1 |

From table 3, there is a positive and significant correlation between ROA and NPM, indicating concurrent increase between the duos There is also a positive and highly significant correlation between Tobin's Q and price earnings ratio showing high relation. Market performance of the firms is therefore important in terms of their relationships and outcomes. Contrastingly, there is no correlation between customer loyalty and internal efficiency amongst any of the other performance indicators, except for customer loyalty and net profit margins for which the correlation is negative. The correlation tests therefore confirm significant variations in the performance measures.

### 4.3 Tests of Time Series and Cross-sectional Properties of the Panel Data

#### 4.3.1 Test for Normality

From the kernel test used to ascertain the normality of distribution we confirm as depicted in Figures 4.4a to 4.4d that that none of the variables is normally distributed since the kernel plots are all concentrated away and widely spread from the centre of the plot. . Thus, the OLS estimation of the relationship may not be feasible.

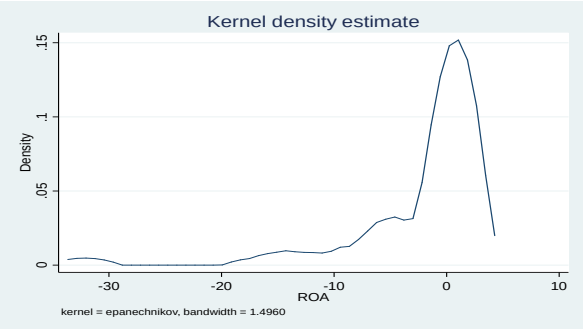


**Fig. 4.4a:** Kernel Density Test for AEM

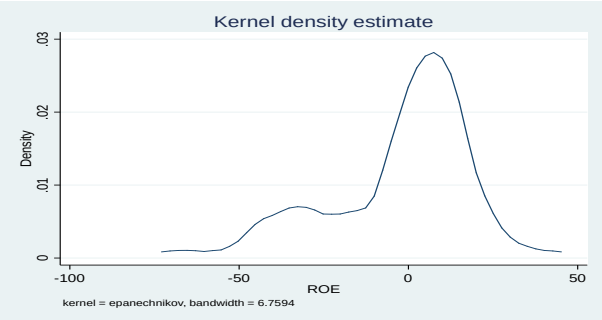


**Fig. 4.4b:** Kernel Density Test for REM





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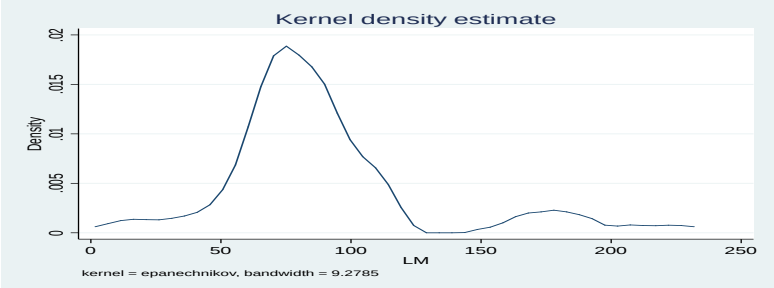


**Fig. 4.4c:** Kernel Density Test for ROA

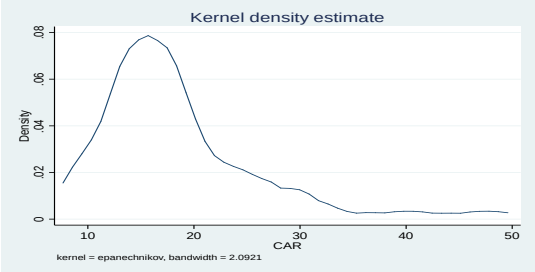


**Fig. 4.4d:** Kernel Density Test for NPM

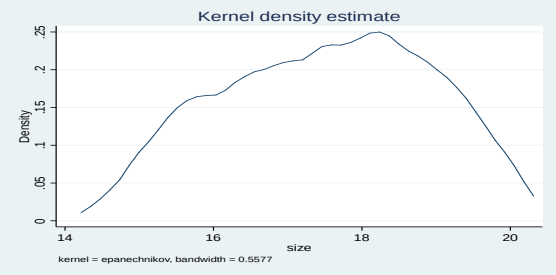


**Fig. 4.4e:** Kernel Density Test for PER

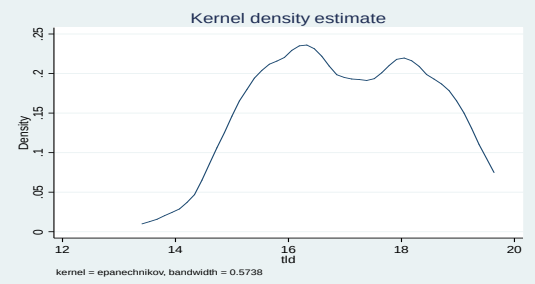


**Fig. 4.4f:** Kernel Density Test for INE

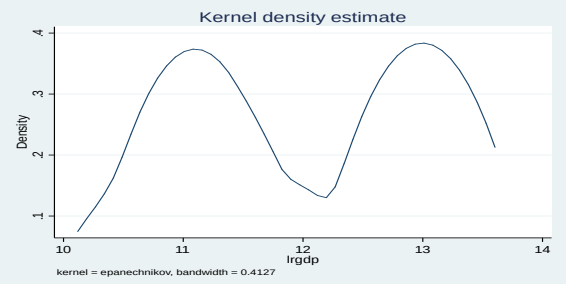


**Fig. 4.4g:** Kernel Density Test for CUS

### 4.3.2 Cross-sectional Dependence Test

The Pesaran (2004) cross-sectional dependence (CD) test is implemented in this study and result is shown on table 4.

**Table 4.4:** Cross-section Dependence Test Results

| Variables series tested | Pesaran CD | P-value | Breusch-Pagan LM | P-value |
|---|---|---|---|---|
| ROA equation | 7.63 | 0.00 | 300.8 | 0.00 |
| NPM equation | 3.28 | 0.00 | 275.4 | 0.00 |
| PER equation | 3.04 | 0.01 | 277.6 | 0.00 |
| TOBIN Q equation | 3.04 | 0.00 | 277. | 0.00 |
| INE equation | 6.03 | 0.00 | 293.5 | 0.00 |
| CUS equation | 9.39 | 0.00 | 337.6 | 0.00 |

**Source:** Author's computations

The statistics of the test components (Peseran CD and Breusch-Pagan) passed significance test at 1 percent level ($p < 0.01$) implying cross-sectional dependence in the estimates. This outcome confirms data may produce consistent but non-efficient regression estimates thus rendering the standard errors biased and applying direct panel data analysis technique may not yield efficient results that can enhance suitable recommendations. Based on this further tests are conducted that takes cognizance of the cross-sectional dependence in the panel dataset are conducted

### 4.3.2 Unit Root and Cointegration Tests

To prevent spurious inferences, Panel unit root tests developed by Levin, Lin and Chu (LLC)are conducted in this study to check for stationarity of the data because of firm-specific characteristics (individual and heterogeneity) and common (or homogenous) of the firms. To account for the differences exhibited by individual firms, the Im,



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Pesaran and Shin (IPS, 2003) and the Augmented Dickey-Fuller tests (which allow for heterogeneity in the panel's cross-section and assumes a null hypothesis of no cointegration in the panel data) are also conducted. All the unit root test results are presented in table 5.

**Table 5:** Panel Data Unit Root Tests Results in levels

| Variables | Common unit process | individual unit root process | | |
|---|---|---|---|---|
| | LLC | IMP | ADF | PP-Fisher |
| ROA | -4.15 | -0.31 | 159.21 | 98.98 |
| NPM | -9.74 | -1.78 | 97.47 | 111.1 |
| PER | -157.00 | -27.38 | 111.57 | 79.06 |
| TOBINQ | -1.85 | -0.24 | 93.02 | 165.2 |
| INE | -16.21 | -4.06 | 85.11 | 169.1 |
| CUS | -2.75 | -0.27 | 79.74 | 89.12 |
| AEM | 1.77 | -1.15 | 109.6 | 29.82 |
| REM | -11.32 | -3.60 | 135.1 | 155.1 |

**Source:** Estimated by the Author. *Note: ** and * indicate significant at 1% and 5 % levels respectively; IPS = Im, Pesaran & Shin; LLC = Levin, Lin & Chu*

Only the tests for level variables are presented since the variables are essentially stationary at their levels. As depicted on table 5, coefficients for all variables in their levels are stationary (given that the critical test values are higher than the test statistic). Based on this scenario, it is confirmed the variables are all integrated of the same order zero (i.e., I[0]). The variables are therefore are likely to converge simultaneously in the same pattern, confirming suitability of cointegration analysis.

Since the unit root results confirmed stationarity and the variables are equal with each of the variables being I[0]. The long run conditions of the variable interactions can be established. Only the results of the Kao cointegration tests are reported since these tests accommodate lesser degrees of freedom.

Table 6 shows the outcomes of the Kao panel co-integration test for each equations. The coefficients of Kao tests in each equation are all significant at the 5 percent level. Thus, there is strong evidence of panel co-integration. The co-integration tests results establishes a strong long run relationship among the variables. The dynamic panel data estimation framework is applied in the analysis.

**Table 4.6:** Panel Co-integration Test Result

| Equation | Kao statistic | Prob. |
|---|---|---|
| ROA | -4.72 | 0.00 |
| NPM | -4.71 | 0.00 |
| PER | 7.02 | 0.00 |
| TOBINQ | -2.03 | 0.04 |
| INE | 13.14 | 0.00 |
| CUS | 2.10 | 0.04 |

**Note:** **, * indicates the rejection of the null hypothesis of no cointegration at the 0.01 and 0.05 level of significance respectively

### 4.4 Regression Analysis

#### 4.4.1 Test of Panel Estimation Framework

In this section, Hausman test is used to identify time-varying conditions of the panel data in order to determine whether to use Random or fixed effect method of panel analysis. The Chi-Square value of the equations passes significance test at 5 percent confirming fixed effect as the most efficient procedure for estimating the relationships since misspecification cannot occur when employed.





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**Table 4.7:** Result of Hausman Test of Random/Fixed Effect

| Model | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| ROA equation | 12.41 | 6 | 0.019 |
| NPM equation | 12.25 | 6 | 0.016 |
| PER equation | 13.47 | 6 | 0.00 |
| Tobin's Q equation | 18.03 | 6 | 0.00 |
| INE equation | 21.11 | 6 | 0.00 |
| CUS equation | 13.37 | 6 | 0.00 |

**Source:** Author's computations

However, because previous analysis confirmed presence of cross-sectional dependence in dataset fixed effect regression will be inefficient. The next option generalized moments of methods uses internal and external instruments to control for heteroskedasticity and hence does not address the presence of cross-sectional dependence in datasets Pesaran, (2021). Based on this situatio, we adopt the panel corrected standard error as it is expected to yield better results.

### 4.5 Robustness Test

In order to establish the robustness of the estimates in the study, multicollinearity test is conducted. The results of the multicollinearity test are presented in . In the result, the focus is on the output of the uncentred variance inflation factors (VIF) variables. The VIF value must be less than 5.0 for the variable in an equation to be free from collinearity. In the report, the VIF values for all the variables are less than 5.0. Thus, it can be seen that the estimated coefficients for the equations do not integrate excessively among themselves and the estimates are therefore reliable. The heteroskedasticity test (reported in the appendix) also shows that there is presence of heteroskedasticity in the PCSE estimates.

**Table 4.14:** Variance Inflation Factor and tolerance levels of the independent variables

| Variable | VIF | 1/VIF |
|---|---|---|
| AEM | 1.46 | 0.686704 |
| REM | 1.43 | 0.71372 |
| **Mean VIF** | **1.22** | |

**Source:** Author's computations

## 4.4 TEST OF HYPOTHESES AND DISCUSSION OF FINDINGS

The tests of the hypotheses of the study are based on the estimated coefficients of the models that were specified. The tests are performed at the 5 percent level of significance. The tests of the hypotheses also provide grounds for outlining policy directions as well as discussion of the results.

**Hypothesis One: There is no complementary effect of Accruals and Real earnings Management on Return on Assets of manufacturing companies in Nigeria**

From the results in Table 8, the adjusted R-squared is 0.825 confirming that over 82 percent variations in returns on Assets are explained by earnings management. The model therefore is suitable for defining the relationship between returns on asset and earnings management.

**Table 8:** Accruals, earnings management and ROA

| The Variable | Panel OLS | | | | Panel Correlated Standard Errors | | |
|---|---|---|---|---|---|---|---|
| | Coefficient | t-Statistic | Prob. | | Coefficient | t-Statistic | Prob. |
| AEM | 0.011 | 0.80 | 0.43 | | 0.010 | 10.66 | 0.00 |
| REM | -0.013 | -5.43 | 0.00 | | -0.012 | -42.94 | 0.00 |
| Adj. R-sq. | 0.073 | | | | 0.825 | | |

**Source:** Author's computations

The test of this hypothesis is based on the result of the coefficient of AEM and REM, in the PCSE estimates in Table 4.8. The coefficient of AEM is 0.011 with p-value that is less than 0.01, the coefficient of REM is -.013 with p-value that is less than 0.01. In each of the cases, coefficient of the variables passes the significance test at the 1 percent level. Hence, the null hypothesis is rejected, which implies a significant effect of discretional accruals, and real earnings management on Return on Assets of manufacturing companies in Nigeria actually





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exists. In terms of the distributed effects, that of AEM is positive, while that of REM is negative. These results therefore show that accruals earnings management and real earnings management are mutually exclusive in terms of their effects of firms' ROA in Nigeria. While firms that focus on accruals exhibit higher ROA, firms that focus on real earnings exhibit lower ROA. This result is in line with findings by Greiner, *et al*, (2016), Commerford, *et al*., (2018) and Odo and Ugwu, (2020). In particular, the results show that creative earnings management's strategies like accruals earnings management provides the leeway for boosting asset-based management systems. On the other hand, real earnings management tend to be more restrictive for management's subjective estimates, making it more difficult for management to use income-increasing accrual earnings management.

**Hypothesis Two: There is no complementary effect of Accrual and Real earnings management on Net profit margin of manufacturing companies in Nigeria**

The results of effects of different earnings management strategies of the firms on the net profit margins are presented in Table 4.9. In the PCSE result, coefficient of variation is relatively moderate at 0.585 indicating 58 percent of variations in net profit margins of firms was explained in the model.

**Table 4.9:** Accruals and Real earnings management and NPM

| Variable | Panel OLS | | | | Panel Correlated Standard Errors | | |
|---|---|---|---|---|---|---|---|
| | Coefficient | t-Statistic | Prob. | | Coefficient | t-Statistic | Prob. |
| AEM | 0.021 | 1.66 | 0.10 | | 0.018 | 12.46 | 0.00 |
| REM | -0.001 | -0.64 | 0.52 | | -0.001 | -14.10 | 0.00 |
| Adj. R-sq. | 0.019 | | | | 0.585 | | |

**Source:** Author's computations

In the results, the coefficient of ARM is 0.018 ($p < 0.01$), that of REM is -0.001 ($p < 0.01$), and it is 0.013 ($p < 0.01$) for RPT. Based on these estimates the variables passed the significance test at 1 percent level showing significant relationships of AEM and REM on Net profit margin. .. The result also confirm that ARM has a positive co-efficient while REM is negative. This indicates that AEM and REM are mutually exclusive. We therefore accept the hypothesis that there is no complementary relationship between AEM and REM since the direction of influence is in opposite direction. We conclude that AEM and REM are mutually exclusive. This finding confirm that firms adopt accrual earnings management to increase net profit margin which may be for signaling purposes or for bonus compensation when compensation is tied to reported profit. Contrastingly, when firm indulge in tax aggressiveness to lower reported profit they tend to adopt real earnings management. This mutual exclusive relationship indicate firms are not likely to pursue both strategies of earnings management at the same time if they aim to improve financial performance. Similar findings were made by Beyer, *et al*., (2018) and Odo and Ugwu, (2020), although Essien, *et al*., (2021) found that a complementary negative effect is to be expected between the two earnings management strategies.

**Hypothesis Three: There is no Complementary effect of Accrual andReal Earnings Management on internal efficiency of manufacturing companies in Nigeria**

Table 12 is used in the study to ascertain the nature of relationships between ARM and REM with internal efficiency

**Table 4.12:** Earnings management and INE

| Variable | Panel OLS | | | | Panel Correlated Standard Errors | | |
|---|---|---|---|---|---|---|---|
| | Coefficient | t-Statistic | Prob. | | Coefficient | t-Statistic | Prob. |
| AEM | -4.191 | -0.77 | 0.44 | | -1.233 | -7.43 | 0.00 |
| REM | 0.112 | 0.12 | 0.91 | | 0.070 | 7.59 | 0.00 |
| Adj. R-sq. | 0.016 | | | | 0.212 | | |

**Source:** Author's computation

From the outcome on the table**,** the coefficient of AEM is -1.233 with p-value that is less than 0.07; the coefficient of REM is 0.026 with p-value that is less than 0.01indicating significant relationships of the variable with internal efficiency. The distributed effect of the variables shows that the coefficients is negative, while that of REM is positive. This demonstrates a mutually exclusive



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relationship between the effects of accrual earnings management and real earnings management using production method when internal efficiency of the firms is being considered. Based on the result of the study we accept the null hypothesis that there is no complementary relationship between the variables . Since internal efficiency is critical for manufacturing firms, this result indicates that efficiency performance is firms in Nigeria is lesser for firms that engage more in accruals earnings management. On the other hand, the coefficient of real earnings management is positive and significant, indicating that real earnings management has a significant positive impact on internal efficiency of the manufacturing firms. Thus, focusing on real earnings management raises internal efficiency of the manufacturing firms by up to 0.112 percentage points. This result also demonstrates that accruals earnings management and real earnings management are mutually exclusive rather than complements among Nigerian manufacturing firms, when internal efficiency is being considered. Real earnings management and accrual earnings management revealed differing outcomes on internal efficiency of manufacturing firms in Nigeria. This finding agrees with previous studies like those of Ismeal, (2017), Maria and Hina, (2016) and Ali, *et al*., (2020). Since internal efficiency is critical for manufacturing firms, this result indicates that efficiency performance is firms in Nigeria is lesser for firms that engage more in accruals earnings management. Thus, aggressive earnings management tends to limit the overall efficiency of manufacturing firms in Nigeria in utilizing resources.

**Hypothesis Four: There is no complementary effect of AEM and REM on price earnings ratio of manufacturing companies in Nigeria**

The result of PCSE estimates on table 10 on effect of earnings management and price earnings ratio shows the goodness of fit statistic of adjusted R squared value 0.653 and over 65 percent of the variations in PER was captured in the model, this indicating impressive prediction capacity.. The coefficient of AEM is positive 1.818 with p-value that is less than 0.01, the coefficient of REM is positive 0.026 with p-value less than 0.01. In each of the cases, coefficient of the variables passes the significance test at the 1 percent level .In terms of the distributed effects, the coefficients are positive, demonstrating a complementary AEM and REM on price earnings ratio. Based on this we conclude that there AEM and REM complement each other and therefore we reject the hypothesis that there is no complementary effect between the variables.

**Table 4.10:** Accruals, earnings management and PER

| Variable | Panel OLS | | | | Panel Correlated Standard Errors | | |
|---|---|---|---|---|---|---|---|
| | Coefficient | t-Statistic | Prob. | | Coefficient | t-Statistic | Prob. |
| AEM | 2.165 | 1.37 | 0.17 | | 1.818 | 19.54 | 0.00 |
| REM | 0.023 | 0.08 | 0.94 | | 0.026 | 3.82 | 0.00 |
| Adj. R-sq. | 0.017 | | | | 0.653 | | |

**Source:** Author's computations

The finding illustrates that the earnings management strategies complement each other and can be used to increase price earnings ratio of firms simultaneously. Our findings conform to the findings of Siyanbola, *et al*., (2020) and Qatawneh and Alqtish, (2017) who confirmed similar outcome on how earnings management influences market outcomes of firms..

**Hypothesis Five: There is no complementary effect of AEM and REM, on Customer loyalty of manufacturing companies in Nigeria**

he effects of the accruals and earnings management quality factors on customer loyalty of the firms is examined and the results are presented in Table . U The fixed effects OLS depict low adjusted R-squared value While REM coefficient solely passed significance test at 1 percent. However, PCSE result on the same table revealed R-squared is 0.997, indicating variations in customer loyalty behavior for the firms is explained by earnings management.

**Table 4.13:** Accruals, real earnings management and customer loyalty

| **Variable** | **Panel OLS** | | | | **Panel Correlated Standard Errors** | | |
|---|---|---|---|---|---|---|---|
| | **Coefficient** | **t-Statistic** | **Prob.** | | **Coefficient** | **t-Statistic** | **Prob.** |
| AEM | -0.258 | -0.25 | 0.80 | | -0.161 | -9.81 | 0.00 |
| REM | 2.744 | 14.96 | 0.00 | | 2.729 | 266.38 | 0.00 |
| Adj. R-sq. | 0.348 | | | | 0.997 | | |



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**Source:** Author's computation

In the results, the coefficient of AEM is -0.161 ($p < 0.01$), that of REM is 2.729 ($p < 0.01$. In each of the cases, the coefficients passed the significance test at the 1 percent level. This result confirm that demonstrating that AEM and REM have significant effects on customer loyalty, The results show that the effect of accrual management is negative, while that of real earnings management is positive. Thus, there is a mutually exclusive pattern of effects of accrual earnings management and real earnings management in terms of the effect on customer loyalty. This is an important aspect for both management and shareholders in the firm as was also indicated by Bereskin, *et al*., (2018) and Essien, *et al*., (2021). Based on this we accept the hypothesis which states that there is no complementary effects of AEM and REM on Customer loyalty. Thus, AEM and REM are mutually exclusive

## CONCLUSION

This study examined whether accrual and real earnings management are complementary or mutually exclusive on corporate performance metrics used. The direction of influence using co-efficient were used as determinants of mutually exclusivity or complementary. Specifically, the following conclusions were made.

1. Accrual and Real Earnings management are mutually exclusive on returns on asset. The effect of discretionary accrual is significant positive while that of real earnings management is significant negative.
2. The effect of accrual earnings management on Net profit margin is positive while that of real earnings management is negative, indicating mutually exclusive pattern of effects exists between the two earnings management strategies.
3. Accrual earnings management exert significant negative impacts on internal efficiency of manufacturing companies in Nigeria while real earnings management exert significant positive impact thereby indicating that the two earnings management strategies are mutually exclusive..
4. AEM and Real earnings management exert significant and positive effects on Price earnings ratio of manufacturing companies in Nigeria. Thus, it was shown that the effect of both earnings management strategies on the market performance of the firms is complementary.
5. Accrual Earnings management and Real Earnings management have significant effects on customer loyalty of manufacturing companies in Nigeria, while that of accrual earnings management is negative that of real earnings management is positive indicating there are mutually exclusive

## RECOMMENDATIONS

First, the study found strong mutually exclusive effects of discretionary accruals and real earnings management on ROA of firms. Thus, there is evidence the financial performance of firms are not influenced in the same way if the firm chooses to adopt either of the earnings management strategies. It is obvious from the findings of the study that accrual earnings management have significant negative impacts on internal efficiency and customer loyalty while simultaneously having positive impacts on Net profit margin and Return on Assets Based on the findings it is confirmed that accrual earnings management are used to bloat accounting numbers the consequences of which is negative impact on internal efficiency and customer loyalty. Conversely, the use of real earnings management enhances internal efficiency and customer loyalty while at the same time reducing reported profit numbers

The study also showed that net profit margin improves for firms that engage in accruals earnings management, but not for firms that engage in real earnings management. Thus, there is clear evidence that financial performance of manufacturing firms is hinged generally on more aggressive earnings management over time. The study also provided evidence that it is real earnings management that improves internal efficiency in terms of overall resource use by manufacturing firms in Nigeria.

This outcome therefore presents a dilemma to managers who want to improve both financial performance and internal efficiency simultaneously. Earnings management should therefore be considered as a strategic adaptation rather than a deliberate manipulation strategy of management in order to drive long term performance, especially in relation to the market performance of firms. It was shown that both accruals earnings management and real earnings management are complements in terms of market performance of firms. Thus, firms that seek to improve their market performance do not need to





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overemphasize the need to manipulate earnings in order to influence investors' decisions. These firms can as well employ real earnings management to generate the same outcome. Finally, there is the need for manufacturing firms to improve real earnings management in order to improve their positions before customers. Results reveal that customer loyalty favors firms with real earnings management in Nigeria. This implies that firms need to minimize the costs of accruals earnings management over time.

The desire to be aggressive in earnings management may not always generate net pay-offs that match the effort contributed by management. We recommend that firms should focus on minimizing the costs of accrual earnings management on the firm in the long run. In general, adopting a mix of management strategies is shown in this study to be more efficient for enhancing long-term performance of firms in Nigeria.

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