Abstract: There has been growing demand by significant stakeholders for trustworthy information on the economic, social, environmental, and governance activities of firms. Although, management who are responsible for preparing this sustainability reporting has been faulted for self-interest acts and opportunities behaviors. Because of this, this study evaluates the effect of earnings management on sustainability reporting of listed non-financial firms in Nigeria from 2011 to 2018. The sample of the study comprised of 24 firms and sustainability reporting was measured using content analyses on the corporate annual report on sustainability used Global Reporting Initiatives (G4) guidelines, while the earnings management variable was derived from the Modified Jones Model by Dechow, Sloan & Sweeny (1995) for discretionary accrual. A correlational design was employed; Secondary data was obtained from the annual reports of the firms. The results from the fixed effect regression analysis proved that the extent of earnings management drives the level of sustainability reporting positively. The study concludes that firms that manage their earnings are likely to report more on sustainability.

Keywords: Sustainability Reporting, Earnings Management, Global Reporting Initiatives, Modified Jones Model

1. INTRODUCTION

There has been growing demand by significant stakeholders for trustworthy information on the economic, social, environmental, and governance activities of
firms (Adam & Frost, 2008). The need for sustainability reports is based on the desire that the company should not only provide financial performance information, but also provide information about socioecological performance, namely information about the positive and negative impacts of the company’s business activities for community and environment (Lestari et al., 2019; Riduwan & Andajan, 2019). According to Ernst and Young (2014) report, sustainability reporting seems to be approaching a “tip point” as it moves beyond the sphere of innovators and early adopters and into the mainstream. Failure to participate in the reporting process may have a negative effect on efficiency, credibility, and even the ability to raise capital.

Sustainability reporting is a crucial first step in adopting a policy that can help a company understand the effect on its stakeholders and how it can minimize negative impacts on the economy, society and the environment (Ernst & Young, 2014). According to Amedu, et al. (2019), sustainable reporting can be regarded as businesses’ response to efforts to ensure sustainable development by being responsible for a broad range of economic, social, and environmental issues to stakeholders. The term is considered synonymous with the concept of triple bottom line reporting, corporate responsibility reporting, integrated reporting, and explains a framework for robust corporate reporting that addresses economic, environmental, and social impacts (Van Zyl, 2013).

Earnings is one of the most often cited performance statistics of major interest to shareholders, suppliers, employees, customers, communities, and regulators within and outside the industries (Surroca, et al., 2007). Ideally, reporting in terms of financial helps better-performing industries to distinguish themselves from poor performers and facilitates financial decision-making by stakeholders (Healy and Wahlen, 1999 cited in Prior et al., 2007). However, agents of the company (i.e. managers) may exercise some power or discretion in computing accounting earnings, without violating the laid down rule of generally accepted accounting principles, thereby making financial reported earnings seem to be either greater or less than they are (Prior et al., 2007).

Previous empirical research has shown that earnings management (EM) has an impact on decisions in corporate reporting (Francis, 2008, Ibrahim, 2015). Earnings as a financial performance indicator can be manipulated in discretionary manner to meet expectation (de Souza, et al, 2019). Thus, earnings management can affect sustainability activities usefulness. Managers may influence the report on sustainability and exploit its information value (selectively) to fit its information policy (Darus et al., 2014).

Previous corporate failures like Xerox, Enron, WorldCom, and Parmalat have proven the threat that management of earnings is widespread across companies around the world. (Sadiq’s, 2015). Such failures have thus undermined the credibility of audited financial reports and cast doubt on the
true economic and financial position of the companies in the minds of the shareholders.

Financial firms in Nigeria especially the Consumer goods, Industrial, and oil and gas are regarded as environmental sensitivity industries as a result of their activities. Although, the sustainability report is still growing in these sectors prior studies assessment shows a low report (Owolabi et al. 2016). As of 2018, sustainability reporting is voluntary in Nigeria. However, the desire for a more sustainability market and enhance information disclosure, has lead Nigeria Stock Exchange issuance of its first sustainability guideline in 2019 which is made mandatory to all firms listed in the premium board to the disclosure on ESG matters (NSE, 2018). This is also supported by the inclusion of sustainability disclosure in the new Nigeria corporate governance code 2018, (Nigeria Corporate Governance, 2018).

Also, the studies of related previous empirical on earnings management and sustainability reporting haves presented somewhat conflicting results, others agree some disagree with relevant theories of earnings management and sustainability reporting across the globe (Surroca et al. (2007), Grougiou, et al. (2014), Ibrahim et al. (2015), Hummel & Ising (2015), Trisnawati & Setiawati (2016), Jordaan, et al. (2018) and Velte (2019)). The contradictory results justify further research. Also, most of the studies in Nigeria have focused on sustainability and corporate financial performance (Aondoakaa (2015, Nwobu (2017), Asuquo, et al. (2018), Usman, et al. (2018), Suleiman, et al. (2018), Sani, et al. (2019) and Iheduru & Okoru (2019)). However, little studies have been carried out on earnings management and sustainability reporting, making it impossible to give a convincing outcome and henceforth, the need to do this in Nigeria.

Against this backdrop, this study to examine the earnings management and sustainability reporting of listed non-financial firms in Nigeria: Does earnings management drive this report. Thus, to achieve this objective, the research hypothesis is formulated and tested in the study:

\[ H_0: \text{Earnings management has no significant effect on the sustainability reporting of listed non-financial firms in Nigeria.} \]

This study will also be of benefit to policymakers and those in academics. Thus, non-financial firms in Nigeria must consider issues involving earnings management and sustainability reporting and growth if they are ever to play an increasing and predominant role in creating value for its stakeholders over time. The study is for a period of eight (8) years ranging from 2011 to 2018. The remaining paper is sub-divided into four sections besides the introduction namely: section two review of literature while section three dwells on methodology. Section four presents’ data analyses and discussions and section five concludes and provides recommendations.
2. REVIEW OF LITERATURE

The literature review is divided into three sub-sections: the conceptual review, the review of related empiric literature, and the theoretical review below.

Conceptual Review

The two main concept of the study are Earnings management and Sustainability reporting are review.

Sustainability Reporting

There is no widely accepted concept of sustainability reporting, according to Aondoakaa (2015), but it can be viewed as a business strategy that generates long-term stakeholder value by accepting opportunities and managing risks arising from economic, environmental and social success. It is a broad term used in general to describe a firm’s reporting on its economic, environmental, and social results. It may be synonymous with triple bottom line reporting, reporting on corporate responsibility and reporting on sustainable growth, but these concepts are becoming more specific in terms of context and thus sub-sets of sustainability reporting (KPMG, 2008). According to GRI (2011), sustainability reporting is a method of assessing, revealing, and accounting organizational success to internal and external stakeholders against sustainable development objectives. Sustainability Reporting is also considered by the KPMG (2008) Dow Jones Sustainability Index as a business strategy that generates long-term shareholder value by accepting opportunities and managing risks from economic, environmental and social developments.

Earnings Management

Watts and Zimmerman (1990) describe earnings management as managers exercising their discretion over accounting numbers, and that this interference in the external financial reporting process may be aimed either to confuse certain stakeholders about the company’s underlying economic performance or to manipulate the contractual outcomes based on the accounting numbers published. By discretionary accruals, the study assessed earnings management as managers can handle earnings by either accruals or real cash flows (Cohen, Dey & Lys 2008; Zang 2012 cited in Sadiq, 2015).

Schipper 1989, as cited in Beneish (2001), considers earnings management to be a purposeful interference in the external financial reporting process with the goal of achieving some private benefit (as opposed to merely facilitating the neutral activity of the process). “The process of taking deliberate steps within the limits of generally accepted accounting principles to bring about the desired level of reported earnings” (Davidson, Stickney and Weil (1987), cited in Schipper (1989)).
Review of Related Empirical Literature

Surroca Aguilar and Tribo Gine (2007) investigated earnings management and corporate social responsibility (CSR) using a sample of 593 firms from 26 countries in the period 2002-2004. The study found evidence a negative and moderated relationship between earnings management practices and CSR. Also, Putri (2012) and Palguna (2013) discovered a negative association between CSR disclosure and earnings management. They provide evidence that report on CSR makes financial reporting more accessible and also limits the control of earnings.

Litt, et al. (2014) evaluated the effects of environmental policies and EM. The findings of the study indicate a substantial negative correlation between environmental policies and earnings management measured using the modified Jones efficiency model. In addition, Grougiou, et al. (2014) studies corporate social responsibility and revenue management in U.S. banks. The results indicated that the extent of a bank’s participation in CSR activities does not have an effect on the determination of a bank’s indulgence in EM practices. In addition, Toukabri, et al. (2014) addressed the relationship between environmental accounting practices and earnings management in Tunisia. The study found that, on the one hand, CSR practices do not promote accounting fraud and, on the other hand, discretionary accrual is not positively linked to CSR.

Ibrahim, et al. (2015) explored the role of earnings management practice on sustainability reporting for businesses selling Islamic goods and service using a sample of 16 public-listed companies in Malaysia offering Islamic financial products over a three-year period from 2011 to 2013. Content review of corporate annual and stand-alone reports used Global Reporting Initiatives (G3) guidelines to assess the consistency of sustainability disclosure, while earnings management related data was collected using the Updated Jones Model. The study found negative effect of earnings management on sustainability reporting quality indicating that sustainability reporting is not distorted to cover their earnings management activities.

Trisnawati and Setiawati (2016) studied on Sustainability reporting and EM using 33 Indonesian firms for the period of three years from 2013-2015. These variables are measured by disclosure index of Sustainability reporting guidelines from Global Reporting Initiative (GRI) G4. The results of the show that all dimensions of sustainability reporting have negative significance on earning management. in South Africa, Jordan et al. (2018) research on corporate social responsibility and earnings management and found that there is no overall association between earnings management through discretionary accruals and CSR performance. Also, they discovered that companies with better CSR performance are less likely to engage in REM. Also, Mahjoub (2018) study on the sustainability reporting and income smoothing using Saudi-listed firms. The study
found that an important level of reporting of sustainability that positively affects the practice of income smoothing.

Riduwan and Andajan i (2019) researched on sustainability concerns and investors responses to earnings announcements in Indonesia. The population of the study consists of the 110 companies that announced sustainability disclosures based on Global Reporting Initiative standards during the 2008–2017 observation period. The results of the study reveals that companies’ concerns regarding economic, environmental, and social sustainability have a positive effect on investor response to earnings announcements. de Souza, et al. (2019) examined the financial reporting quality and sustainability information disclosure in Brazil using a sample of 1,181 firms for the period of seven years 2012 to 2016. They found no evidence that that CSR disclosures influences discretionary measures.

Rezaee and Tuo (2019) researched on are the quantity and quality of sustainability disclosures associated with the innate and discretionary earnings quality using a sample of 35,110 firm-year observations between 1999 and 2015. They found that sustainability disclosure quality can strengthen the positive relation between innate earnings quality and sustainability disclosure quantity and mitigate the negative relation between discretionary earnings quality and sustainability disclosure quantity. Also, Velte (2019) studied on the bidirectional relationship between ESG performance and earnings management—empirical evidence from Germany using a sample of 548 firm-year observations were used for the period of 7 years from 2011-2017. The found that ESG performance has a negative influence on EM. Further, they discovered that a bidirectional relationship between ESG performance and earnings management. Bolarinwa, Ishola, Oyesola and Festus (2020) in their research environmental sustainability and stakeholder’s value of listed manufacturing companies in Nigeria. The study employed survey research method and primary data was used. The population of the study consists of 40 listed manufacturing companies. The results reveals that the statistical analysis of environmental sustainability has negative non-significant effect on management & employees’ value, negative and significant effect on shareholders’ value, community residents’ value and government/ regulatory agencies’ value.

3. METHODOLOGY
The study used an ex-post facto design to examine earnings management and sustainability reporting. The study restricted its population to Consumer goods firms, Industrial goods firms, and Oil and gas firms with a population of 47 firms as of 31st December 2018. The study covers a period of eight (8) years from 2011 to 2018. The population was adjusted using a single filter criterion. Firms that were listed as at December before 2011, second firms with information on sustainability. Hence the study used a sample of 24 firms. The study also employed secondary
data sources from the firm GRI 4, annual report, and sustainability reports of the firms. The study used descriptive statistics and panel multiple regression analysis as an analytical technique. Diagnostic tests were carried out to validate the assumptions of linear regression. Assumptions. The data collected were analyzed with the aid of STATA. Sustainability index on economic, environmental, and social as required by GRI 4 as used in prior studies by (Trisnawati, 2016; de Souza et al., 2019). Total sustainability disclosure is determined as the proportion of total score obtained from the firms to total available scores. Items on sustainability reporting in the annual report are score 1 and anyone not discloses is awarded 0. A total of fifty-nine (59) items where used in line with (Trisnawati, 2016). 34 pertaining to the environment, 16 for social, and 9 items for economic.

\[ CSR = \frac{\text{sum GRI report on sustainability}}{\text{Maximum GRI report on sustainability}} \]

The studies also control for firm size and profitability in line with prior studies by de Souza et al. (2019), Velte (2019), Riduwan and Andajani (2019) etc.

**Model Specification**

The study used absolute residual from modified Jones model by Dechow, et al. (1995) adjusted to separate the discretionary accruals (DA) portion from the non-discretionary portion of total accruals is given as:

\[ \frac{\text{TAC}_{it}}{\text{A}_{it-1}} = \alpha_0 \left( \frac{1}{\text{TAC}_{it}} \right) + \alpha_1 \left[ \frac{\Delta \text{REV}_{it} - \Delta \text{REC}_{it}}{\text{A}_{it-1}} \right] + \alpha_2 \left( \frac{\text{PPE}_{it}}{\text{A}_{it-1}} \right) + \epsilon_{it} \]  

(1)

Whereas:

- \( \text{TAC}_{it} \) = Total accruals of firm \( i \) in year \( t \)
- \( \text{A}_{it-1} \) = Total assets at the beginning of the period of firm \( i \)
- \( \Delta \text{REV}_{it} \) = Change in sales between year \( t \) and year \( t-1 \) of firm \( i \)
- \( \Delta \text{REC}_{it} \) = Change in receivable between year \( t \) and year \( t-1 \) of firm \( i \)
- \( \text{PPE}_{it} \) = Gross value of fixed assets in year \( t \) of firm \( i \)
- \( \alpha_0, \alpha_1, \alpha_2 \) = are estimated parameters
- \( \epsilon_{it} \) = is the residual of firm \( i \) in year \( t \)

In order to examine the relationship between earnings management and sustainability, the absolute residual is used to represent earnings management in model two

The model is stated below as

\[ \text{SR}_{it} = \beta_0 + \beta_1 \text{EM}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{PFT}_{it} + \epsilon \]  

(2)

Where:
SR = sustainability reporting  
EM = earnings management  
FS = firm size for the company i in year t  
PFT = profitability for the company i in year t  
$\beta_1, \beta_2,$ = Regression coefficients of independent variables  
$\varepsilon_i$ = error term.

4. RESULT AND DISCUSSION OF FINDINGS

Table 1: Descriptive Statistics of the Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>No OBS</th>
<th>MEAN</th>
<th>STD DEV</th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td>192</td>
<td>.37</td>
<td>.066</td>
<td>.30</td>
<td>.50</td>
</tr>
<tr>
<td>EM</td>
<td>192</td>
<td>.084</td>
<td>.077</td>
<td>.000</td>
<td>.618</td>
</tr>
<tr>
<td>FS (million)</td>
<td>192</td>
<td>170726.7</td>
<td>287447</td>
<td>935,436</td>
<td>1694460</td>
</tr>
<tr>
<td>PFT</td>
<td>192</td>
<td>.078</td>
<td>.111</td>
<td>-.432</td>
<td>.540</td>
</tr>
</tbody>
</table>

Source: STATA, 2020

Table 1 shows that the average disclosure on sustainability is 37% with 50% as the maximum report. Further, EM-based on absolute residual has an average value of 0.084. Firm size scaled by 100,000 for convenience purpose has an average size of N170,726,700,000. Finally, profitability measured by return on the asset has an average positive value of 0.078 which reveals that the firms are efficient in the use of the asset.

4.1. Results of Diagnostic Test

In this section, the results of the multicollinearity test, normality of residuals, heteroskedasticity test, Hausman specification test, are presented and discussed, as shown in the tables below as follows

Table 2: Multicollinearity test

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>1.01</td>
<td>0.994</td>
</tr>
<tr>
<td>FS</td>
<td>1.05</td>
<td>0.947</td>
</tr>
<tr>
<td>PFT</td>
<td>1.06</td>
<td>0.951</td>
</tr>
<tr>
<td>MEAN VIF</td>
<td>1.04</td>
<td></td>
</tr>
</tbody>
</table>

Source: STATA, 2020

The results from Table 2 showed that there is no presence of harmful correlation among the independent variables as the largest Variance inflation factor (VIF) is 1.06 and the smallest tolerance value (TV) is 0.951.
Normality: One classical assumption of the OLS regression model is that the error terms are normally distributed. The normality of the residual was tested using the Jacque Bera test at a 5% level of significance. The residual reveal an insignificant p-value of .000 which is less than a 5% level of significance. This suggests that the residual is not normally distributed.

**Heteroscedasticity Test:** The heteroscedasticity test was conducted using Cameron & Trivedi’s decomposition of the IM-test for Heteroscedasticity to look out for this assumption. The result from table 4 shows the prob>chi2 is 0.17 which is greater than a 5% level of significance. This points out that there is no presence of heteroskedasticity.

### Table 3: Others Diagnostic Test

<table>
<thead>
<tr>
<th>Test</th>
<th>Chi2</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normality (Jacque Bera)</td>
<td>23.36</td>
<td>0.000</td>
</tr>
<tr>
<td>Cameron &amp; Trivedi’s decomposition of IM-test</td>
<td>12.84</td>
<td>0.170</td>
</tr>
</tbody>
</table>

**Source:** STATA, 2020

### Table 4: Hausman Specification Test Effects

<table>
<thead>
<tr>
<th>Test</th>
<th>Chi2</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hausman Specification Test</td>
<td>31.96</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Source:** STATA, 2020

**Hausman Specification Test:** Hausman specification test was conducted after running a fixed and random effect model to decide if the effect is random or fixed. The result shows that at a 5% level of significance, the prob>chi2 is 0.000 which is less than 5% level significance. This significant p-value shows that the Hausman test favors the fixed effect model. For the robustness of the model, the study used a robust standard error of fixed-effect regression.

### Table 5: Fixed Effect Regression Model with Driscoll-Kraay standard errors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficients</th>
<th>Drisc/Kraay Std error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>.031</td>
<td>.011</td>
<td>2.77</td>
<td>0.011*</td>
</tr>
<tr>
<td>FS</td>
<td>-.051</td>
<td>.017</td>
<td>-2.99</td>
<td>0.007*</td>
</tr>
<tr>
<td>PFT</td>
<td>.065</td>
<td>.004</td>
<td>13.30</td>
<td>0.000*</td>
</tr>
<tr>
<td>CONST</td>
<td>-1.25</td>
<td>.125</td>
<td>-10.02</td>
<td>0.000*</td>
</tr>
<tr>
<td>R2 within</td>
<td>34.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t-statistic</td>
<td>118.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** STATA, 2020

**Note:** *, statistical significance at 5%
Interpretation

Table 5 above presents the result of the robust fixed-effect model selected for the study based on the Hausman specification test. The regression result discloses that earnings management, firm size, and profitability are able to give an account of 34.74% changes in sustainability reporting in the sampled firms. The F-statistics chi-square reveals a P-value of 0.000 which is significant at less than 5% level significance. This reveals that the model is fit and adequate.

DISCUSSION ON EM AND SR

Table 5 shows that earnings management has a positive influence on the sustainability reporting of the listed non-financial firms. This finding suggests that firms that engage in earnings management report more on sustainability issues. The implication of the findings is that sustainability reporting is more a signal to the market rather than stakeholders focus in Nigeria during the voluntary disclosure period. The firm’s management who engage in earnings management may also report on sustainability performance to portray improve the image of the firms why still engaging in engagement. Thus sustainability can be said to be a cover-up earnings manipulation. However, the finding is contrary to expectation and against the stake holder’s theory. It is in line with studies by Rezaee and Tuo (2019), Mahjoub (2018), Riduwan, and Andajani (2019) and contrary to Trisnawati and Setiawati (2016), Toukabri, et al. (2014) and Ibrahim, et al. (2015).

CONCLUSION AND RECOMMENDATIONS

This study uses panel data analysis to evaluate the sustainability reporting of 24 listed nonfinancial firms in Nigeria for eight years from 2011 to 2018. The quality of the sustainability disclosure was measured using guidelines (G4) of Global Reporting Initiatives, while the Modified Jones Model of used to obtain earnings management associated data. The results of the study provide evidence that the sustainability reporting practices among listed nonfinancial companies in Nigeria during the seven-year period may have been influenced by the desire to manage earnings. The significant results between earnings management and the quality of sustainability reporting imply that sustainability reporting might have been manipulated to shield earnings management practices. This may have been because sustainability reporting was discretionary during the period of the study. In line with the findings and conclusions of this study, it is recommended that NSE should ensure that the firms comply with the mandatory report on sustainability reporting to avoid the discretionary use for the purpose of concealing earnings management.

References


