Original Research Article

EFFECT OF AUDIT COMMITTEE CHARACTERISTICS ON REAL EARNINGS MANAGEMENT THROUGH ABNORMAL CASH FLOW

ABSTRACT

Aims: The purpose of this study is to examine the effect of audit committee (AC) characteristics on real earnings management (REM) through abnormal cash flow from operations of listed companies in Nigeria.

Place and Duration of Study: The study was conducted on non-financial listed companies in Nigeria for the period of five years (2016-2020).

Methodology: The data was extracted from the sample firm's annual report and Thompson Reuters database. Ordinary Least Square (OLS) regression was employed to test the study model. The analysis is based on a sample of 76 listed non-financial companies for five years with 380 firm-year observations.

Results: The finding shows that AC size and financial expertise reduce management opportunistic earnings manipulations. Also, the result demonstrates that the presence of independent AC is significantly associated with lower earnings management practices. However, the result further establishes that AC meeting frequency and REM are positively related.

Conclusion: These findings will give an insight to investors, policymakers, and regulators by enabling them to better understand the importance of AC in improving the financial reporting quality (FRQ), and the effect of AC characteristics in mitigating earnings manipulations.

Keywords: *Audit committee, earnings management, financial reporting, corporate governance.*

1. INTRODUCTION

The management opportunistic earnings management (EM) practice does not reflect a true firm's financial performance and creates less reliable financial information. EM reduces investor confidence in the usefulness of financial reports for investment decisions. This is because the quality of reported earnings does not reflect the economic reality of the firm, due to the management discretion in the selection of accounting methods and treatment that serve their interests rather than the interests that would reflect the firm true financial position. Dechow et al. (1996) argue that monitoring mechanisms are effective tools to reduce management opportunistic behavior that would improve the quality of accounting earnings and make them more reliable.

Many prior studies have tried to establish evidence as to whether board characteristics influence EM as a measure of FRQ. Earnings management is defined as the management's ability to exercise discretion in preparing a company's financial reports or structuring transactions with the intention to mislead users of financial information or to advance an alternative to initiate contractual outcomes based on the reported accounting numbers (Healy & Wahlen, 1999). Stock market regulators and other investor protection agencies around the world are concerned about the effect of EM on investors, that caused major corporate failures and financial crises witnessed in the last decades (Coffee, 2005) because it has undermined investors' confidence in the capital markets (Habbash et al., 2013).

In Nigeria, the first Code of Corporate Governance (CCG) was issued in 2003 by the Securities and Exchange Commission (SEC). The code provides guidelines for best corporate governance (CG) structures and internal processes. More so, it provides public listed companies with the principles and best practices of good governance. The SEC in 2011 revised the code as an effort to improve CG practices by strengthening the quality of the board of directors. Recently, the Financial Reporting Council (FRC) reviewed the code in 2018 to uphold FR integrity by improving board structure and composition, and compliance is mandatory for all public listed companies to enable shareholders and the public to assess companies' performance and determine the corporate governance standards.

The code outlined the importance of establishing an independent audit committee (AC) responsible for ensuring the quality of FR. It is further recommended that members of the AC should be financially literate and at least one member should be a financial expert with current knowledge in accounting. The AC as part of the board monitoring subcommittee under a company's CG has been charged with overseeing the FR process to restrain managers' opportunistic behavior of

EM and ensure investors' interests are protected. Therefore, the AC needs to possess high-quality characteristics to be transparent, focused, and independent in monitoring the FR process (Bédard et al., 2004; Saleh et al., 2007). AC characteristics have been an important topic of many accounting studies. For instance, Abbott et al. (2004), Aier et al. (2005), Engel et al. (2010), Habbash et al. (2013), Ioualalen et al. (2015), Sharma and Kuang (2014) explore the effect of AC characteristics and EM. Therefore, this study extends the literature to investigate the effect of AC characteristics in restraining EM and enhancing FRQ of listed firms in Nigeria. Specifically, the study investigates the effect of AC size, financial expertise, meeting frequency, and independence on abnormal operating cash flow, a proxy of real earnings management (REM).

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Audit Committee Size and Earnings Management

The size of the AC has been extensively addressed by several corporate governance guidelines (Cadbury, 1992; Smith Report, 2003). These reports emphasized that AC should have at least three members. Similarly, the Sarbanes-Oxley Act (2002) assumes that at least three members in the AC would be capable to resolve issues in FR. Nigerian Code of Corporate Governance [NCCG] (2018) stipulated that it is essential for the AC effectiveness to have non-executive directors (NED), and the majority must be independent directors. However, prior studies reported that AC size has a major role in its monitoring decisions (Bédard & Gendron, 2010; Salleh et al., 2007; Xie et al., 2003).

A survey of previous literature on the effect of AC size on curbing earnings management and improving financial reporting quality reported mixed results. Al-Shaer et al. (2017) found that larger AC size is significantly associated with higher disclosure quality. Agyei-Mensah and Yeboah (2019) established that AC size reduces EM activities and improved financial reporting quality. More so, He and Yang (2014), and Rajeevan and Ajward (2020) revealed that AC with a larger size had a significant association with the magnitude of EM. These findings are suggesting that an AC with a larger number possessed sufficient knowledge and skills and is more effective in the monitoring of financial reporting. In contrast, Albersmann and Hohenfels (2017) documented that a larger size of AC is not capable of constraining EM. However, Sun et al. (2014) have not provided sufficient evidence to support the role of AC size in reducing REM.

Consistent with the agency theory which assumes that larger boards might involve more independent members with diverse skills, which can lead to better monitoring of management. This study assumes that a larger number of the AC would have more diverse knowledge and skills that can be used by the committee to effectively enhance its monitoring function, which in turn reduces the likelihood of EM practice, thereby increasing the FRQ. Therefore, the following hypothesis is formulated:

H1: There is a negative relationship between audit committee size and earnings management.

2.2 Audit Committee Financial Expertise and Earnings Management

Financial expertise is one of the critical attributes of AC members that help effectively monitor the FR process. The NCCG (2018) requires that all members of the AC should be financially literate, and they should be able to read and understand financial statements. Also, the code recommends that at least one member should be a financial expert with current accounting and financial management knowledge to be able to interpret financial statements.

Prior studies established a relationship between AC financial experts and EM. Abbott et al. (2004) reported that earnings restatement is less likely to occur in a firm with active and financial experts AC. Garcia-Sanchez et al. (2017) examine whether the presence of financial experts on AC improved earnings quality. The result established that earnings quality improved due to the effective role of financial experts' members on the committee. Juhmani (2017) found that AC financial expertise is negatively related to discretionary accruals, implying that financial experts AC reduce EM activities and enhance FRQ. These findings are validated by Komal et al. (2021) and Zalata et al. (2018), who documented lower EM activities due to the presence of financial experts AC members. However, Mollik et al. (2020) and Sun et al. (2014) found that the financial expertise of the AC is ineffective in curbing EM.

In this study, it is expected that the financial expertise of AC members is a good monitoring mechanism that can enable the committee members to better understand and detect manipulation in the FR process, which in turn may reduce EM and improve the FRQ. This is consistent with agency theory and NCCG (2018), which states that AC members who possess financial and accounting qualifications are more likely to enhance FRQ and mitigate EM. Hence, it is hypothesized that:

H2: There is a negative relationship between AC financial experts and earnings management.

2.3 Audit Committee Meetings and Earnings Management

The frequency of meetings is one of the important characteristics of AC (Beasely, 1996; Menon & Williams, 2004). Smith Report (2003) requires that AC are to meet at least three times during the company financial year to enable detect any fraud in the FR process. However, the NCCG (2018) states that "AC should meet at least once in every quarter" to ensure the accounting and reporting policies are in accordance with legal requirements.

Previous studies provide mixed findings on the effects of AC meetings frequency and EM. For instance, Abbott et al. (2004) documented a negative association between the ACs that meet at least every quarter during the year and the occurrence of FR restatements. More so, Xie et al. (2003), Gonzalez and Garcia-Meca (2014), Inaam et al. (2012), Lin and Hwang (2010), and Salleh and Haat (2014) established that the frequency of AC meetings significantly mitigates EM activities and improved the FRQ. However, other findings revealed a weak association between the frequency of AC meetings and EM (Chandrasegaram et al., 2013; Davidson et al., 2005; Habbash et al., 2013; Juhmani, 2017). On the

other hand, Haji-Abdullah and Wan-Hussin (2015) reported an insignificant association between the number of meetings conducted by the AC and REM. Al-Sayani et al. (2020) observed that the frequency of AC meetings does not enhance FRQ.

This study expects that frequency of AC meetings shows the committee's commitment to effectively monitor the firm's FR process and ensure its credibility. Therefore, the following hypothesis is formulated:

H3: There is a negative relationship between the frequency of AC meetings and earnings management.

2.4 Audit Committee Independence and Earnings Management

The independence of AC has been considered as one major factor that enhances the effectiveness of AC (Habbash et al., 2012; Klein, 2002; Li et al., 2012). The Blue-Ribbon Committee [BRC] (1999, p. 1079) states that "… a director without any financial, family, or other material personal ties is more likely to be able to evaluate objectively the propriety of managements' accounting, internal control, and reporting practices". NCCG (2018) emphasizes on the role of ACs by recommending NEDs as members of the committee, and the majority should be independent NEDs where possible. This is consistent with the requirement of many countries like the USA, UK, and the European Union mandates companies to have the majority of independent directors in the committee responsible for audit (Fitchner, 2010; Ringe, 2013).

Empirical studies have documented that independent AC is associated with EM. Al-Rassas and Kamardin (2016), Salleh and Haat (2014), Sharma and Kaung (2014), Umar and Hassan (2018), and Zgarni et al. (2016) found a negative significant relationship between independent AC and EM, indicating that AC members independence improve the effectiveness of the committee in monitoring the FR process. Likewise, Al-Sayani et al. (2020) reported that independent AC improved the quality of FR and reduced management impression. Toumeh et al. (2020) observed that the independent AC is an efficient mechanism for constraining the management opportunistic behavior of earnings manipulation. In contrast, Kamon and Al-Farooque (2017) and Juhmani (2017) established an insignificant association between independent AC and EM.

The agency theory suggests that independent directors can improve corporate governance effectiveness due to their expertise and independent minds (Fama & Jensen, 1983). This study expects that presence of independent directors in AC will help reduce agency conflict by curbing EM practices and enhancing the FRQ. Based on the above arguments and prior empirical evidence, the study formulates the following hypothesis:

H4: There is a negative relationship between AC independence and earnings management.

3. RESEARCH METHODOLOGY

3.1 Data collection

The population of this study consists of 169 companies listed on the Nigerian Stock Exchange from 2016 to 2020. Banks and other financial service firms have been excluded due to their different characteristics and restricted regulations. However, the study applied filtering criteria and arrived at the final sample. These criteria are (1) a company must have published their annual reports and accounts for the period of study; (2) they must provide all the information that the study variables are required; and (3) any company that was delisted after 2016 will be dropped to arrive at the final sample of the study. Therefore, banks and financial services consisting of 54 were excluded. Companies that do not present their annual reports as of 31/12/2020 consist of 13 were removed from this study. Delisted firms during the study period included 16 companies, and 10 firms with incomplete required data for this study were also excluded. Finally, a total sample consists of 76 companies bringing to 380 firm-year observations. The data were generated from the Thomson Reuters database, Blomberg DataStream, and annual reports of the sampled companies listed on the Nigerian Stock Exchange. The details of the sample selection procedure are provided in Table 1.

Table 1: *Details of Sampling Technique*

Sample Process		Firms
Firms listed on the Nigerian Stock Exchange as at 31/12/2020	169	
Less: Financial service companies		(54)
Less: Firms that does not provide their audited account as at 31/12/2020	(13)	
Less: Delisted firms during the study period		(16)
Less: Firms without complete required data for this study	(10)	
Final sample		76
Number of study years	5	
Firm year-observations	380	

3.3 Model Specification and Variables Measurement

3.3.1 Dependent variable: REM is the degree of real earnings management as proposed by Roychowdhury (2006). REM is calculated by abnormal cash flow from operations (Ab_CFO), which refers to the difference between actual CFO and estimated CFO as indicated in the following formula:

Abnormal cash flow from operations

Abnormal cash flow from operations (Ab_CFO) is estimated from normal cash flow formula based on cross-sectional regression for every firm-year observation as follows:

$CFO_{it}/A_{it}\text{-}1=\propto 0 + \propto 1\ [1/A_{it}\text{-}1] + \beta 1(S_{it}/Ait\text{-}1) + \beta 2(\Delta S_{it}/A_{it}\text{-}1) + \varepsilon_{it}$

CFO_{it} implies cash flow from operating activities for firm i in year t. Ait-1 denotes lagged total assets at the end of year t. Sit signifies current year sales and ΔSit represents a change in total sales (i.e., current year sales minus last year's sales). Whereas ε_{it} denotes the error term. Therefore, the abnormal cash flow from operations (Ab_CFO) is represented by the difference between the actual cash flow (ACFO) and normal cash flow (NCFO). Consistent with

Cohen and Zarowin (2010), abnormal cash flow from operations (Ab_CFO) residual is multiplied by (-1) since a low operating cash flow indicates REM activities.

3.3.2 Independent Variables

Consistent with the existing literature, this study measured AC size (ACSZ) as the total number of directors on the committee (Al-Sayani et al., 2020; Saleh et al., 2007; Xie et al., 2003), AC financial expertise (ACFE) as a dummy variable that takes the value of '1' if at least one member has accounting and financial expertise, and "0" otherwise (Habbash et al., 2013; Zgarni et al., 2014). However, the AC meeting (ACME) is measured by the number of AC meetings during the financial year (Saleh et al., 2007; Li et al., 2012), while AC independence (ACIN) is measured as the percentage of INED to the total number of directors on the AC (Li et al., 2012; Miko & Kamardin, 2015).

3.3.3 Control Variables

This study is consistent with prior existing evidence, selected firm size (FSIZ) as a control variable, and is measured as the natural log of market value (Chen et al., 2015; Mollik et al., 2020). The study included firm leverage (FLEV) and calculated as the ratio of long-term debt to total assets (Bala et al., 2018). Finally, big-four (BIG4) is a dummy variable that takes the value of 1 if the firm is audited by big 4 audit firms, and '0' if otherwise (Sani et al., 2018; Sharma & Kaung, 2014).

3.4 Regression Model

This study proposed the following econometric model on the relationship between the AC attributes (i.e., ACSZ, ACFE, ACME, and ACIN) and REM. The model is adapted from previous studies (Habbash et al., 2013; Saleh et al., 2007; Sun et al., 2014).

$REM = \beta 0 + \beta 1ACSZ_{it} + \beta 2ACFE_{it} + \beta 3ACME_{it} + \beta 4ACIN_{it} + \beta 5FSIZ_{it} + \beta 6FLEV_{it} + \beta 7BIG4_{it} + \varepsilon_{it}$

Where:

REM refers to real earnings management, ACSZ is audit committee size, ACFE represents audit committee financial expertise, and ACME stands for audit committee meetings. More so, FSIZ stands firm size, FLEV is firm leverage, while BIG4 denotes big four auditors.

4. RESULTS AND DISCUSSIONS

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics of the study variables. The mean value of REM indicates 0.658, minimum and maximum values are -0.912 and 4.321 respectively with a standard deviation of 0.614. This indicates the practices of real activities manipulation across listed firms in Nigeria. The mean of AC size is 3.000 with a minimum value of 2.000 and a maximum value of 7.000. The mean value of AC financial expertise is 0.700 with minimum and maximum values of 0.140 and 1.000 respectively. This denotes that 70% of AC members are financial experts.

The AC meeting frequency mean value is 4.050 with 2.000 minimum value and 8.000 maximum value during the sample firms' financial year. The mean value of AC independence is 0.730, the minimum value is 0.000 and the maximum value is 1.000, implying that 73% of AC members are independent (non-executive) directors. In relation to control variables, the mean value of firm size is 12.060 with minimum and maximum values of 15.310 and 32.150 respectively. The mean value of firm leverage is 0.056, while the big-4 audit mean value is 0.602, implying that more than 60% of the firms are audited by big-4 auditors.

Table 2: Descriptive statistics

Variables	Obs.	Mean	Minimum	Maximum	SD
REM	380	0.658	-0.912	4.321	0.614
ACSZ	380	3.000	2.000	7.000	1.120
ACFE	380	0.700	0.140	1.000	0.367
ACME	380	4.050	2.000	8.000	1.502
ACIN	380	0.730	0.000	1.000	0.420
FSIZ	380	12.060	15.310	32.150	5.814
FLEV	380	0.056	0.000	0.435	0.065
BIG4	380	0.602	0.000	1.000	0.631

4.2 Correlation Test

Table 3 presents the Pearson correlation matrix for the study variables. The result from the table shows that the highest correlation coefficient is -0.342 between ACME and ACFE which is less than 0.80 as recommended by Hair et al. (2014). This indicates the non-existence of multicollinearity issue. However, the correlation between REM and ACSZ is negative at a 5 percent significance level.

Likewise, Table 3 also shows that ACFE and ACIN have a negative coefficient with REM at 1 percent and 5 percent significance level respectively, this implies that AC financial expertise and independence of AC are negatively associated with REM. Contrarily, the coefficient of ACME indicates a positive relationship with REM at a 1 percent significance level, denoting that frequency of AC meetings does not reduce real activities manipulation.

Table 3: Pearson correlation matrix

Variables	REM	ACSZ	ACFE	ACME	ACIN	FSIZ	FLEV	BIG4
REM	1.000							
ACSZ	0.080**	1.000						
ACFE	-0.074***	-0.066*	1.000					
ACME	0.068***	-0.264**	-0.342*	1.000				
ACIN	-0.079**	0.051	-0.146**	-0.100*	1.000			
FSIZ	-0.135**	-0.320*	-0.064*	0.048**	-0.082*	1.000		
FLEV	-0.112*	0.084	-0.102**	0.053	-0.087	0.072*	1.000	
BIG4	-0.066***	0.055	-0.070**	0.062	0.054*	-0.078	-0.093	1.000

Notes: *REM = Real earnings management, ACSZ = AC size, ACFE = AC financial expertise, ACME = AC meeting, ACIN = AC independence, FSIZ = firm size, FLEV = firm leverage, BIG4 = big-4 auditors; ***significant at 0.01 level; **significant at 0.05 level; and *significant at 0.1 level.*

4.3 Regression Results

Table 4 present the Ordinary Least Square (OLS) regression outcomes of the effect of audit committee characteristics and abnormal cash flow from operations, a measure of real earnings management. Evidence from the regression result indicates that AC size (ACSZ) is negative and significantly associated with REM (b = -0.742, *p* = 0.008), suggesting that having more members in the AC increases their ability to improve the quality of financial reporting. This is consistent with Baxter and Cotter (2009), Fodio et al. (2013), and Rajeevan and Ajward (2020), who also reported that AC size reduces earnings management practices and improves financial reporting quality. This result confirms the assumption that AC size is negatively associated with real earnings management.

Regarding ACFE, the regression coefficient indicates that AC financial expertise has a significant negative effect on real earnings management (b = -0.210, *p* = 0.000), indicating the role of AC with financial expertise in lessening EM activities. This is consistent with the requirement of the Nigerian Code of Corporate Governance (NCCG) 2018 that AC members should have financial knowledge with at least one member who is an expert in accounting and finance to be able to improve the financial reporting quality. The result supported the findings of Inaam and Khamoussi (2016) and Komal et al. (2021), who conclude that AC financial expertise increases FR credibility and mitigates earnings manipulation. The finding also validates the study hypothesis that AC financial expertise is negatively associated with earnings management activities.

On the AC meeting, the finding reveals that AC meeting is positively related to real earnings management (b = 0.136, *p* = 0.010), denoting that frequent meeting of AC does not help reduce earnings management due to the inherent problems of firm financial reports. This finding is consistent with Ghosh et al. (2010) and Lin and Hwang (2010), who reported a positive relationship between the frequency of AC meetings and EM. The result also confirmed the assumption that an increase in the AC meeting signifies the presence of problems in the firm (Jensen, 1993; Vafeas, 1999). The result does not support the study hypothesis that predicted AC independence is negatively related to earnings management.

The coefficient of AC independence and earnings management is positive and significant (b = -0.325, *p* = 0.040). This implies that firms with independent AC improve the credibility of the firm's financial reports thereby mitigating EM practices. The finding is consistent with previous evidence (Al-Rassas & Kamardin, 2016; Sharma & Kaung, 2014; Toumeh et al., 2020) that AC independence is associated with higher financial reporting quality and lower earnings management. It also supported the result of Al-Sayani et al. (2020), who confirms that AC independence is associated with lower impression management in Malaysia. The findings support the hypothesis that AC independence is associated with lower earnings management practices.

Table 4: OLS regression results

Variables	β	*p*-value
ACSZ	-0.742	0.080*
ACFE	-0.210	0.000***
ACME	0.136	0.010*
ACIN	-0.325	0.040**
FSIZ	0.212	0.010**
FLEV	0.085	0.060
BIG4	-0.072	0.008***
Constant	-1.291	0.090***
Year Fixed Effects	Yes	
Firm Fixed Effects	Yes	

R-Square	0.246
Adjusted R-square	0.172
Prob>F	0.000
Number of Observations	380

Notes: This table reports the estimates of regression model, ACSZ = AC size, ACFE = AC financial expertise, ACME = AC meeting, ACIN = AC independence, FSIZ = Firm size, FLEV = Firm leverage, BIG4 = Big4 auditor; ***; **; and * denote 1%, 5%, and 10% significance level respectively.

In relation to control variables, it is observed that the coefficient of FSIZ (firm size) is positive and significantly related to earnings management (b = 0.212, p = 0.010), suggesting that larger firms in terms of market value are more likely to have lower-quality financial reports. This supports the findings of Bala et al. (2020), who demonstrate that firm size is positively associated with cosmetic accounting. The coefficient of FLEV (firm leverage) is positive but insignificantly related to earnings management (b = 0.085, p = 0.060).

Finally, BIG4 auditors are negative and statistically significant (b = -0.072, p = 0.008) with earnings management, implying that firms audited by big-4 auditors are less likely to engage in earnings management due to their expertise in tackling problems. This is consistent with Ozili (2021), who reported that big-4 auditors and earnings management are negative and significantly related.

5. CONCLUSION

Following the CG reforms across the globe, the audit committee plays an important monitoring role to improve the integrity of financial reporting and audit quality. This study examines the effect of audit committee characteristics on real earnings management through abnormal operating cash flow. The findings show that AC size, AC financial expertise, and AC independence were effective monitors in mitigating real earnings management practices. The findings will provide an insight for investors to better understand the significant role of an effective AC in enhancing the credibility of financial disclosure, which in turn, will enhance investors' confidence. The findings of this study can also benefit policymakers and regulators by enabling them to better appreciate the significance of these distinct AC characteristics in curbing financial fraud, which is one of the most critical elements of improving financial reporting quality. Precisely, these findings enlighten policymakers and regulators of the possible effect of AC size, financial expertise, and independence on REM practices. However, the conclusions of this study are limited to the non-financial sector that might not be valid to financial services due to their distinct attributes and regulations, where generalization might not be possible. The study has concentrated on a few AC attributes as monitoring mechanisms in reducing REM. However, some other monitoring mechanisms influence FRQ, such as board attributes, internal audits, and ownership structure. Nonetheless, future studies might be conducted from some of the above limitations for improvement.

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