

**Abstract ID:** ICBMIS-2019-064

## **Does the Audit Committee Diversity Influence Discretionary Disclosure? A dynamic Panel Analysis on Developing Countries**

**\*Ali Shariff Kabara<sup>1</sup>, Dewi Fariha Abdullah<sup>2</sup>, Aniza Othman<sup>3</sup>**

<sup>1</sup> Azman Hashim International Business School, Universiti Teknologi Malaysia, Johor, Malaysia  
alishariff080@gmail.com

<sup>2</sup> Azman Hashim International Business School, Universiti Teknologi Malaysia, Johor, Malaysia  
dewifariha@utm.my

<sup>3</sup> Azman Hashim International Business School, Universiti Teknologi Malaysia, Johor, Malaysia  
anizaothman@utm.my

### **Abstract**

This study investigates the influence of audit committee diversity on the extent of discretionary corporate governance (CG) disclosure. Specifically, we study the influence of audit committee independence, the financial expertise of the audit committee member, and the audit committee size on the extent of discretionary CG disclosure. We are using a quantitative approach and sample of 71 Nigerian listed firms over seven years (2011–2017) in conducting a dynamic panel GMM analysis of the effect of audit committee diversity on the extent of discretionary CG disclosure. Our analyses are robust as we adopted a system GMM approach as an advanced and superior estimation to overcome unobserved heterogeneity and possible endogeneity of the explanatory variables. In the overall model, the audit committee is found to be positively and significantly determine discretionary disclosure, whereas audit committee independence has no significant effect on discretionary disclosure, but board size and financial expertise of audit committee members are the other important determinants of discretionary disclosure, respectively. The study provides a clear practical implication for business firms, policymakers, future research, and the entire stakeholders by indicating empirically that corporations with a diversified audit committee are more expected to be diligent and apparent about their financial practices, and thereby providing useful information on voluntary discretionary CG disclosure. This study is among the few that provide empirical evidence using sophisticated dynamic panel model in recent times. Nevertheless, this study, to the best of our knowledge, is the first attempt at explicitly measuring the impact of audit committee diversity and discretionary disclosure in corporate governance studies in the developing economy like Nigeria.

**Keywords:** The Audit committee financial expertise, Audit committee independence, audit committee size, Discretionary disclosure, Generalized method of moments (GMM).

## 1 Introduction

In recent times, the issues of audit committee diversity and discretionary disclosure have become the concern of many parties, particularly policymakers, due to persistent corporate financial failures in the world. The outcomes of previous empirical researches examining the relationship audit committee and discretionary disclosure have been inconclusive and inconsistent due to different variables used, sample periods, studies' location, and, more importantly, econometric methods employed. Accordingly, the insufficient disclosures by firms resulted from the ineffectiveness of corporate governance attributes such as audit committee independence, size, and financial expertise of the committee members); have been agreed as the major reason for most of the corporate financial crisis worldwide. (Lepore, Pisano, Amore, & Guida, 2019; Zhou et al., 2018; Hassan et al., 2017; Cadbury-Report, 1992 ).

Financial malpractices and abuse of the system by capital market operators in developing countries like Nigeria have been receiving a great concern by all stakeholders. Without audit committee diversity, the vices above are likely to continue and retard the achievement of attracting both foreign and local investors, lowering the cost of capital and increasing the firms' value, among others. However, Ferrari et al. (2016) asserted that the board and audit committee diversification would have solved the problems. Furthermore, in their part, Hamzah and Zulkafli (2014) believed that failure of the composition of the board in terms of directors' skills, experience, and independent status is a major factor that leads to the collapse of Lehman Brothers in 2008. Hence, this study aimed to empirically find out whether audit committee (AC) has any effect on discretionary/voluntary disclosure (VD) after this referred to as AC and VD, respectively, which invariably enhances company's performance and effectiveness.

Furthermore, a study from the US and other developed markets confirmed that audit committee diversity has a positive influence on financial disclosure reporting (Harris, 2016), and it reduces the likelihood of financial misstatement. Additionally, it helps in improving conscience disclosure in companies and effectively monitoring management. Moreover, a comprehensive study of Nigerian listed companies revealed that Nigerian financial reporting practices are weak, mainly due to the non-existence of expertise in the audit committee (Modugu and Eboigbe, 2017; World-Bank, 2014).

Despite the importance of audit committees in influencing the level and quality of financial reporting, there has been little research on the link between AC diversity and voluntary disclosure reporting especially, in the context of Nigerian stock exchange. However, the current study emphasizes on audit committees since the majority of firms have assigned the responsibility of overseeing ethics to this committee.

The paper is sketched as follows: Next Section 2, we reviewed the relevant literature from previous empirical researches, show how the variables used in this study related and influenced one another. We discuss the methods, data, and measures of the study in Section 3 and demonstrate the empirical results of descriptive, correlation, and GMM-models in Section 4. We present the findings of the study in Section 5 and conclude in Section 6.

## 2 Literature review

Audit Committee is a fundamental corporate governance mechanism that ensures firms' management apply ethical practices and are accountable concerning ethics. The importance of AC's as a sub-committee of boardroom cannot be overemphasized. Many scholars tried to define the concept from a different viewpoint. For example, Uzun, Szewczyk, and Varma (2004, p.6) described audit committees as "responsible for overseeing the financial reporting

process and ensuring the objectivity of the external audit.” Nonetheless, apart from monitoring the role of the financial reporting process as indicated in the previous definition, the independence of the audit committee members is another mechanism that substantially contributes to the committee's achievement (Xie, Davidson, and Dadalt, 2003). Similarly, the traditional roles and responsibilities of AC's are significant in terms of exciting the reputation of good corporate governance, improving a good contact between the board of directors and auditors, and reconciling the conflict between management and auditors (Lin, Xiao, and Tang, 2008).

A positive relationship has been found between audit committee characteristics and voluntary disclosure by Samaha et al. (2015), using meta-analysis to a sample of 64 empirical studies. Consistently, Krishnamurti & Velayutham (2017) and Al-Shaer, Salama, & Toms (2017) also confirm the existence of a relationship after conducting their study on audit committees and financial reporting quality of UK environmental accounting disclosures. In contrast, Razek (2015), in his research, confirms that the existence of an audit committee has a significant influence on corporate social responsibility disclosure of Egyptian companies. Unlike Chithambo (2013) and (Gulzar & Zongjun (2011), who found no relationship between discretionary disclosure and the presence of the audit committee. Hence, this hypothesis is formulated:

H1: There is a significant and positive association between the Overall AC diversity and the extent of VD

## **2.1 The effect of Audit Committee Independence (ACI) on VD**

Audit committee independence can be seen as existence of more independent non-executive directors in the committee composition. The existing literature offers empirical results supporting that it is the major duty of non-executive directors to ensure maintenance of good policies in terms of transparency and disclosure in the companies (Arcay and Va'zquez, 2005). Previous studies on disclosure have empirically proved the existence of relationship between board independence and voluntary disclosure. Many investigations revealed negative or nonexistence of relationship between them (see Alshfire et al., 2016; Wu, Patel, and Perra, 2015; Chithambo, 2013; Li, Mangena, and Pike, 2012). On the other hand, a positive and significant influence was reported (see, Rouf, 2016; Bin-Ghanem, 2016; Samaha, Khlif and Hussainey, 2015; Liao, Luo, and Tang, 2015b; Madi, Ishak, and Manaf, 2014). However, Bronson, Carcello, and Raghunandan (2006) revealed nonexistence of relationship between audit committee independence and audit committee effectiveness at a greater level.

However, the preceding discussion indicates that disclosure levels can be improved significantly due an increase of independent directors on the audit committee; likewise, reduce information asymmetry between firm management and investors. Following most of the previous research, we expect to have a positive relationship and accordingly state our second hypothesis:

H2: There is a significant and positive association between the proportion of AC independence and the extent of the VD level.

## **2.2 The effect of Audit Committee Financial Expertise (ACFE) on VD**

According to Li, Mangena, and Pike (2012), the provision of a qualitative Internal Control (IC) disclosure can only be achieved when ACs members with financial expertise existed, as they understand better the capital market implications. Such an understanding of the members

should lead to an enhancement in IC disclosure to reveal information on firms' value-creating procedures. Additionally, previous researches, like, Dewayanto (2017) studies the influence of the expertise of an audit committee and the internal control disclosure, and the result shows that AC expertise improves disclosures. Furthermore, the result showed that audit committee members have a greater possibility of showing and detecting material misstatements due to their understanding of finance and financial reporting. On the other hand, other researchers found a negative or nonexistence of influence based on their empirical results (see, Madi, Ishak, and Manaf, 2014; Li, Mangena, and Pike, 2012).

Based on the above conflicting results, we want to examine this relationship and propose the following hypothesis:

H3: There is a significant and positive association between the proportion of AC members with financial expertise and the extent of VD

### **2.3 The effect of Audit Committee size (ACSIZE) on VD**

NCCG (2011) specified that an audit committee should comprise of non-executive directors of at least equal half. Prior studies showed that the larger size of an audit committee would lead to unnecessary debate and delay in making a decision, as well as more inadequate communication and decision-making process (Lin et al., 2008). According to Krishnamurti & Velayutham (2018), there is a negative association between audit committee size and disclosure reporting. However, empirical evidence proved nonexistence of significant influence between the size of an audit committee and discretionary accruals (Xie et al., 2003).

Nevertheless, many empirical studies disclosed a positive and significant relationship between the audit committee and discretionary disclosure like Zhou et al. (2018), Sami & Musallam (2018), and Madi et al. (2014). However, this shows that the magnitude of the audit committee size has does not guarantee any increase in the companies' disclose of information on the annual report. Based on the results presented, we expect a negative relation and propose the following hypothesis:

H4: There is a negative and significant relationship between the proportion of AC size and the extent of VD

### **2.4 Theoretical Framework**

The agency theory is the critical theory in this study that described all independent variables. It is believed that voluntary information in the annual reports is release with intent to: decrease the information asymmetry, enhance the firm's market value, reduces capital costs, and to signal to their market about their quality and performance at a lower cost. Hence, discretionary disclosure is one of the signaling means by which companies provide additional formation above the statutory requirement by laws and regulations to signal that they are better (Shehata, 2014).

Conversely, the stakeholder theory proposes that managers are accountable to all the stakeholders (Chen and Roberts, 2010). However, stakeholders' approach to corporate governance implies a swing in the old-style role of the board of directors, as a defender of solely the right of the shareholder's, to a protector of the right of the entire stakeholders. The use of a diversified apparatus to control the unrestrained behavior of the CEO may include audit committee diversity like (e.g., financial experience, committee independence, etc).

However, this research supports agency, signaling theory, and stakeholder theory to develop the research hypothesis.

### 3 Methodology/Materials

The study being a survey research design used annual reports of 71 firms listed in the Nigerian stock exchange as a sample of 497 firm-year observations over the period 2011-2017, to investigate the effect of the audit committee on discretionary disclosure. The dependent variable was VD, and the independent variables were audit committee independence, members' financial expertise, and committee size. The dependent variable VD was used to measure the extent of firms' voluntary disclosure. Voluntary disclosure checklist was prepared by the researcher to measure voluntary disclosure, based on the checklist developed by (Meek, Roberts, & Gray (1995) concerning voluntary disclosures of U.K and continental European firms and subsequently used by several studies like Rouf (2016). As for the measurement and its sources, the details were reflected in the table below:

Table 1. Operational Definition of Variable Measurement

<b>Independent Variables:</b>	<b>Measured by:</b>
Audit Committee Independence (ACI)	The proportion of nonexecutive directors in the audit committee composition.
Audit Committee Financial expertise (ACFE)	The proportion of the AC members with finance experience/background to overall AC members.
Audit Committee Size (SIZE)	The total number of audit committee members.
<b>Dependent Variable:</b>	
Discretionary Disclosure (VD)	The total number of points given for VD, i.e., strategic, financial, and non-financial information (coding one "1" if the company discloses and Zero "0" otherwise).

This research was designed to involve the following five steps: an assessment of the literature, structure of a hypothesis or theory, data compilation, evaluation and testing by GMM regression and correlation, and making inferences from the results to establish conclusions and relate them to the literature and theory.

#### 3.1 Model Specification

The system GMM method, according to (Bond, Hoeffler, & Temple, 2001), is more superior to difference GMM. Also, two-step is theoretically more efficient than one-step estimation because it uses optimal weighting matrices. Moreover, endogeneity in the relation between the corporate audit committee and disclosure arises from (a) unobservable heterogeneity (due to unobservable factors that influence the disclosure level and all explanatory variables). This study used panel dataset that has a short time dimension ( $T = 7$ ) and a larger company dimension ( $N = 71$ ), which in line with the requirement of using GMM estimation. The primary reason why dynamic GMM model is preferred to standard fixed effects models is biasness of the fixed-effects model, especially when the dynamic relation between the variable of interest and the explanatory variables is significantly existing (Wintoki, Linck, & Netter (2012). Moreover, Nguyen, Locke, & Reddy (2014) contend that GMM estimation approaches offer the most reliable empirical result, mainly when the effects of corporate governance on financial disclosure performance are investigated. Furthermore, it is argued that the voluntary CG disclosure behavior may be jointly and dynamically influenced by unob-

served company-specific heterogeneities (Ntim, Opong, Danbolt, & Thomas, 2012), which simple OLS regression may fail to ascertain.

Two-step system GMM estimation method in comparison with difference GMM is used in this study to exposing the potentialities involved in using it. (Consistent with previous disclosure studies like Mohammadi, 2018; Abad et al., 2017), even though the system-GMM is more effective than difference-GMM as it enhances the accuracy of the model. Similarly, two-step-GMM is asymptotically more efficient than the one-step estimation as it controls the measurement errors by incorporating the orthogonality settings on the variance-covariance matrix (Arellano & Bond, 1991).

In order to measure the effect of Audit Committee on (ACI, ACFE, and ACSIZE) and discretionary disclosure (VD) equations below were constituted:

### Model Equation 1:

$$VDI_{it} = \alpha + \gamma VDI_{it-1} + \beta_1 ACI_{it} + \beta_2 ACFE_{it} + \beta_3 ACSIZE_{it} + \varepsilon_{it},$$

### Overall Model Equation 2:

$$VDI_{it} = \alpha + \gamma VDI_{it-1} + \beta_1 ACI_{it} + \varepsilon_{it},$$

### Where:

$VDI_{it}$  - Stand for Discretionary Disclosure Index (Total number of voluntary items disclosed by a firm) that are for firm  $i$  in period  $t$  respectively.

$VDI_{it-1}$  - Stands for the lag value of Discretionary Disclosure Index (Total number of item disclosed by a firm) that are for firm  $I$  in period  $t$  respective) voluntary items

AC	=	Overall Audit Committee
ACI	=	Audit Committee Independence
ACFE	=	Audit Committee Financial Expertise
ACSIZE	=	Audit Committee Size

$\alpha$  is intercepted while  $\gamma$ ,  $\beta$ , and  $\delta$  are the primary coefficients

## 4 Results/Findings

### 4.1 Descriptive Statistics and analysis

Descriptive statistics are employed in this study to summarize and report the behaviour of the main variables of the Nigerian listed companies and permit the measurement of central tendency and dispersion. Hence, Table 2 shows the total number of observations, mean, median, minimum, maximum, standard deviation values of the dependent and the independent variables of the overall sample of the study. The descriptive analysis of the key variables presented in Table 2 is based on the sample of 497 firm-year observations over the period 2011-2017.

Table 2 illustrates that the average total Voluntary Disclosure Index (VDI) is 69%, which means approximately 19 items out of 27 items were disclosed, with an average standard deviation of 0.62. This average suggests a high level of disclosure by Nigeria listed companies. The table also reveals the wide range of overall information disclosure based on voluntary items where it varies from 44% (minimum) to 77% (Maximum). Nevertheless, when making comparisons with prior researches care must be taken due to differences in the sample size, economic level of environment, characteristics of the index disclosure, and the period of the study.

Table 2 also reveals the descriptive statistics for the independent variables used in this research. As indicated, the average of the audit committee independence over the seven years in the overall companies is 50%, the minimum was 0.40, the maximum was 0.75, and the standard deviation stands at 0%. The above result indicates the interest of Nigerian listed companies to place an independent director on their board. The audit committee members with financial knowledge over the seven years are about 54% of the board members, with minimum 0 and maximum of 100%, whereas standard deviation stands at 21%. The mean audit committee size for an individual firm is 5 with minimum 2 and maximum of 8 members; standard deviation stands at 85%. This average does not suggest a high level of relationship.

**Table 2.** Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
vdi	497	.6907	.0615	.4444	.7777
aci	497	.5021	.0229	.4	.75
acfe	497	.5414	.2089	0	1.25
acsize	497	5.657	.8493	2	8

Source: Authors' calculation, based on data (2011–2017).

### *Correlation*

This study used a pairwise correlation to understand the relationship between the dependent and independent variables; whether it is negative or positive, a was computed. Table 3 below shows the results of the Pairwise correlation details that involve the audit committee independence, financial expertise of audit committee members, and audit committee size on voluntary disclosure. A matrix giving the correlations between all independent variables reveals a low correlation between virtually all the variables at a 5% level of significance. Therefore, no special attention is needed when including the variables in the model.

**Table 3.** Pairwise correlation matrix

Variable	vdi	aci	acfe	acsize
vdi	1.0000			
aci	0.0777	1.0000		
acfe	0.1068**	-0.0773	1.0000	
acsize	0.2236**	-0.0975**	-0.2573**	1.0000

\*\*Correlation at 0.05 level of significant (2-tailed).

VDI: Discretionary disclosure index

## **4.2 Generalized Method of Moments (GMM) Results**

In this study, a generalized method of moments (GMM) was employed to achieve the objective of the research. Concerning models 1 and 2, the results of both specification tests employed (for 2-step system GMM approach), namely the AR (2) for serial correlation testing and the Sargan test for instrument validity testing are also valid. Specifically, the p-values for the AR (2) and Sargan tests as presented by Tables 4 and 5 exceed the value of 0.10, which means that the variables are statistically not significant at the significance level of 10%. In other words, the empirical model has been fittingly specified due to the non-existence of serial correlation (autocorrelation) in the transformed residuals. In the meantime, the numbers of instruments are less than the number of groups (i.e., firms) also, the instruments (moments conditions) used in the models are valid. Similarly, the conditions of an additional moment, such as Sargan tests appear to be insignificant statistically. Thus, based on the outcomes of the tests, as shown below, the entire model is valid and fittingly specified.

**Table 4.** GMM Findings, Relationship between the Audit Committee Diversity Attributes and Discretionary Disclosure Index (Model I)

Variables	Diff-1 GMM	Diff-2 GMM	Diff GMM VCE(Robust)	System-1 GMM	System-2 GMM
L1(vdi <sub>t-1</sub> )	.351 (.109)***	.316 (.099)***	.3162 (.873)	.897 (.057)***	.899 (.003)***
Audit Committee Independence	.047 (.033)	-.007 (.025)	-.007 (.027)	.074 (.042)*	.022 (.034)
Audit Committee Financial Expertise	.005 (.008)	.0014 (.002)	.001 (.005)	-.003 (.010)	-.002 (.001)***
Audit Committee Size	-.001 (.003)	.001 (.001)	.001 (.001)	-.008 (.003)***	-.008 (.001)***
Constant	.429 (.078)***	.473 (.071)	.473 (.608)	.082 (.049)*	.106 (.017)***
Instruments	19	19	19	23	23
Sargan Test	.001	.922	-	.000	.471
AR(1) test(pvalue)	-	.375	0.873	-	.103
AR(2) test(pvalue)	-	.256	.351	-	.224
Observation	355	355	355	426	426
Firms	71	71	71	71	71

\*\*\* Significant at  $p < 0.01$ , \*\* significant at  $p < 0.05$ , \* significant at  $p < 0.10$ ,

Table 4. In its first column at the third row indicated that the lagged dependent variable is significant at 1% level, and its magnitude shows that voluntary disclosure levels change only slowly over time and depend on previous levels. This result also justifies the dynamic model specification and the employment of the System GMM approach.

The Static GMM results of columns two, three, and four, which are based on 1-step diff GMM, 2-step diff GMM and Diff-VCE(Robust) GMM estimations respectively, revealed that no statistically significant correlation was found between the three variables and the level of voluntary disclosure index. Similarly, it is apparent that in column five, using a 1-step system GMM approach shows a significant positive relationship between AC Independence and voluntary disclosure level at 10 % level of significance. Whereas, AC financial expertise shows no connection with the voluntary disclosure scores. However, the AC size indicated an insignificant negative correlation with the voluntary disclosure scores. However, this result is not acceptable because both the Sargan test of overidentifying restrictions and AR (2) tests for zero autocorrelation in first difference errors prove to be invalid.

Surprisingly, in the last column of Table 4.6, the results (using a 2-step system GMM approach) strongly revealed that the relation between both the AC financial expertise and AC size and voluntary disclosure level is negatively significantly (at 1% level). Nevertheless, 2-step system GMM estimation results were **accepted** since it satisfied the reliability and validity tests as shown at the bottom of Table 4 below, which revealed some tests for the reliability of the system GMM estimates. The AR (1) and AR (2) tests show no evidence of autocorrelation at conventional levels of significance for any of the specifications in these tables (AR (1) P-value indicates significant level, and AR (2) P-value shows the insignificant level (above 0.05). The Sargan test of over-identifying restrictions is tested with the joint null hypothesis that instrumental variables are valid (i.e., uncorrelated with error terms). Therefore, these post estimation results indicate that the dynamic model is the practically right specification for the disclosure model.



**Table 5.** Overall (Model II GMM) Findings, Relationship between the Audit Committee and Discretionary Disclosure Index

Column 1	2	3	4	5	6
Variables	Diff-1 GMM	Diff-2 GMM	Diff- VCE(Robust) GMM	System-1 GMM	System-2 GMM
$L_1(vdi_{t-1})$	.329 (.108)***	.311 (.042)***	.311 (1.449)	.886 (.056)***	.888 (.001)***
Audit Committee	.006 (.006)	.002 (.002)	.0016 (.005)	.007 (.007)	.006 (.001)***
Constant	.4546 (.074)***	.475 (.028)***	.475 (.997)	.069 (.038)*	.069 (.001)***
Instruments	17	17	17	21	21
Sargan Test	.0009	.9452	-	.0000	.8184
AR (1) test (pvalue)	-	0.310	.925	-	0.109
AR(2) test (pvalue)	-	0.251	.4588	-	.214
Observation	355	355	355	426	426
Firms	71	71	71	71	71

\*\*\* Significant at  $p < 0.01$ , \*\* significant at  $p < 0.05$ , \* significant at  $p < 0.10$

In the first column at the 3<sup>rd</sup> row of Table 4, the lagged dependent variable is significant at 1% level, and its magnitude reveals that voluntary disclosure levels change only slowly over time and depend on previous levels. This result also justifies the dynamic model specification and the employment of the System GMM approach, because of the weak instrument problem associated with Difference GMM when the series is highly persistent.

Column two, three, and four indicates static GMM results, which are based on 1-step diff GMM, 2-step diff GMM and Diff-VCE (Robust) GMM estimations, respectively, revealed that no statistically significant correlation was found between the three variables and the level of voluntary disclosure index. Similarly, GMM results using a one-step system GMM estimator in the fifth column indicate no relationship between the variables.

Surprisingly, in the last column of Table 4, the results (using 2-step system GMM approach) strongly suggest that the relation between the overall audit committee diversity and voluntary disclosure level is significantly positive (at 1% level). It implies that the audit committee diversification has a greater influence on voluntary disclosure reporting.

However, unlike the static GMM estimators and one-step system GMM estimation that was presented above the two-step system GMM estimation results is **acceptable** as it satisfied the reliability and validity tests as shown at the bottom of table 4 below which revealed some tests for the reliability of the system GMM estimates. In this table, the AR (1) and AR (2) tests show no evidence of autocorrelation at predictable levels of significance for any of the specifications in this table (AR (1) P-value is significant; and AR (2) P-value is 0.2136 (above 0.05). The Sargan test of overidentifying restrictions is tested with the joint null hypothesis that instrumental variables are valid (i.e., uncorrelated with error terms) P-value is 0.8184 (above 0.05). It means there is not any problem regarding instruments, and they are not correlated with the errors. Therefore, there is no evidence of endogeneity for these instrumental variables, suggesting that they, as well as the subsets of instruments employed in the system GMM model, are valid. Generally, these post estimation results show that the dynamic model is the practically useful specification for the disclosure model.

The results imply that both AC financial expertise and AC independence in the firms have less or even no enticement to provide more VD information to external users. The result is in line with the previous research like Madi et al. (2014) ); Li et al. (2012); Othman et al. (2014).

By examining the impact of the audit committee as an independent variable, we find that audit committee is positively and significantly associated with corporate discretionary disclosure reporting. However, it can be deduced from the outcomes of the GMM result that diversification of audit committee by quoted companies played a significant role with regards to discretionary disclosure reports of Nigerian companies. The finding is in line with the previous research (e.g., Samaha et al., 2015; Krishnamurti & Velayutham, 2017; Al-Shaer et al., 2017) whereas, somewhat surprisingly, the effect of the existence of an independent audit committee member is not significant. Although it contradicts the majority of the previous literature, however, the result is consistency with (Alshfire *et al.*, 2016; Wu, Patel, and Perera, 2015; Bronson, Carcello, & Raghunandan, 2006). The simple reason might be the independent audit committee members themselves, probably not safeguarding ethics when discharging their duties.

Similarly, results proved that both the expertise of audit committee members and the size of the committee has a negative relationship with discretionary disclosure level. The result implies that when the audit committee has members with financial expertise, it does not ensure voluntary disclosure because audit committee members themselves probably may not safeguarding ethics in carrying out their duty. In the same vein, the results showed that there is a significant negative relationship between audit committee size and discretionary disclosure. This finding supports the arguments of Lin et al. (2008) and Othman et al. (2014), who similarly establish that larger sized audit committees would lead to excessive debate and interruption in making a decision as well as imperfect communication and decision-making process. It indicates that even though the audit committee size is small or large, it does not ensure whether the committee may yield a positive result about the release of discretionary disclosure in the companies. Furthermore, Persons (2005) deduced that the possibility of fraud is lesser when there are few directors in the audit committee..

## 5 Discussion and Conclusion

By examining, the impact of the audit committee diversity as an independent variable, the results indicated that an overall audit committee diversity is positively and significantly influence the corporate discretionary disclosure reporting. However, it can be deduced from the outcomes of the GMM result that diversification of audit committee by quoted companies played a significant role with regards to discretionary disclosure reports of Nigerian companies. This finding supports the previous research (e.g., Samaha et al., 2015; Krishnamurti & Velayutham, 2017; Al-Shaer et al., 2017) whereas, somewhat surprisingly, the effect of the existence of an independent audit committee member as a component of the audit committee diversity is not significant. Although it contradicts the majority of the previous literature, however, the result is consistency with (Alshfire *et al.*, 2016; Wu, Patel, and Perera, 2015; Bronson, Carcello, & Raghunandan, 2006). The simple reason might be the independent audit committee members themselves, probably not safeguarding ethics when discharging their duties.

Similarly, the results proved that both the expertise of audit committee members and the size of the committee has a negative but significant influence with discretionary disclosure level. The result implies that when the audit committee contained members with financial experience it does not ensure voluntary disclosure due to the audit committee members themselves

probably not safeguarding ethics in carrying out their duty. In the same vein, the results showing a significant negative relationship between audit committee size and discretionary disclosure implies that small and moderate number of committee members has better influence as the larger board decreases the voluntary disclosure. This finding supports the arguments of Lin et al. (2008) and Othman et al. (2014), who found that larger sized audit committees would lead to unnecessary debate and delay in making a decision as well as imperfect communication and decision-making process. It indicated that even though the audit committee size is small or large, it does not ensure whether the committee may yield a positive result about the release of discretionary disclosure in the companies. Furthermore, Persons (2005) deduced that the possibility of fraud is lesser when there are few numbers of directors in the audit committee. Finally, it can be concluded that diversification in the audit committee composition significantly influences directors' decision to revealed more voluntary disclosure for the benefit of all stakeholders and the company itself. Also, it was established that the small and moderate size audit committee has more tendencies to reveal disclosure that is more discretionary. The study revealed a practical implication for business firms, policy makers and future research.

## References

- Abad, D., Lucas-Pérez, M. E., Minguez-Vera, A., & Yagüe, J. (2017). Does gender diversity on corporate boards reduce information asymmetry in equity markets? *BRQ Business Research Quarterly*, 20(3), 192–205. <https://doi.org/10.1016/j.brq.2017.04.001>
- Al-Shaer, H., Salama, A., & Toms, S. (2017). Audit committees and financial reporting quality: evidence from UK environmental accounting disclosures. *Journal of Applied Accounting Research*, 18(1). <https://doi.org/10.1108/IJBM-07-2013-0069>
- Alshfire, F. M., Subekti, I., & Widya, Y. (2016). The effect of audit committee characteristics on the timeliness of financial reporting by Using auditor quality and the moderating variable (An Empirical Study From Indonesian Manufacturing Companies). *The International Journal of Accounting and Business Society*, 24(1), 1–34. Retrieved from <http://ijabs.ub.ac.id/index.php/ijabs/article/view/296>
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277. <https://doi.org/10.2307/2297968>
- Bond, S., Hoeffler, A., & Temple, J. (2001). “GMM Estimation of Empirical Growth Models” (Economic P). Nuffield College University of Oxford.
- Bronson, S. N., Carcello, J. V., & Raghunandan, K. (2006). Firm Characteristics and Voluntary Management Reports on Internal Control. *Auditing*, 25(2), 25–39.
- Cadbury-Report-Committee. (1992). *The Financial Aspects of Corporate Governance*. London: Gee and Co. Ltd.
- Chen, J., & Roberts, R. (2010). Toward a more coherent understanding of the organization–society relationship: A theoretical consideration for social and environmental accounting research. *Journal of Business Ethics*, 97, 651–665.
- Chithambo, L. (2013). *The Extent and Determinants of Greenhouse Gas Reporting in the United Kingdom*. PhD Thesis. Bournemouth University.
- Dewayanto, T. (2017). Audit committee toward internal control disclosure with the existence of foreign directors as moderation variable. *Review of Integrative Business and Economics Research*, 6(3), 324–332.
- Ferrari, G., Ferraro, V., Profeta, P., & Pronzato, C. (2016). Gender quotas : Challenging the boards, performance, and the stock market. *CESifo Working Paper Series No. 6084.*, (10239). Retrieved from ssrn: <https://ssrn.com/abstract=2866376>

- Gulzar, M. A., & Zongjun, W. (2011). Corporate governance characteristics and earnings management: Empirical evidence from Chinese listed firms. *International Journal of Accounting and Financial Reporting*, 1(1), 133. <https://doi.org/10.5296/ijafr.v1i1.854>
- Hamzah, A. H., & Zulkafli, A. H. (2014). Board diversity and corporate expropriation. *Procedia - Social and Behavioral Sciences*, 164(August), 562–568. <https://doi.org/10.1016/j.sbspro.2014.11.146>
- Harris, M. K. (2016). *Professional Diversity of the Audit Committee and the Effect on the Financial Reporting Process*. University of Nebraska,.
- Hassan, R., Marimuth, M., Tariq, E., & Aqeel, R. (2017). Ethnic and gender diversity in top-level management and firm performance : Shareholder's perspectives. *Journal of International Women's Studies*, 18(4), 1–12. Retrieved from <http://vc.bridgew.edu/jiws/vol18/iss4/1%0A>
- Krishnamurti, C., & Velayutham, E. (2017). The influence of board committee structures on voluntary disclosure of greenhouse gas emissions: Australian evidence. *Pacific-Basin Finance Journal*. <https://doi.org/10.1016/j.pacfin.2017.09.003>
- Krishnamurti, C., & Velayutham, E. (2018). Pacific-Basin Finance Journal The influence of board committee structures on voluntary disclosure of greenhouse gas emissions : Australian evidence, 50(September 2017), 65–81. <https://doi.org/10.1016/j.pacfin.2017.09.003>
- Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual capital disclosure. *The British Accounting Review*, 44(2), 98–110. <https://doi.org/10.1016/j.bar.2012.03.003>
- Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual capital disclosure. *The British Accounting Review*, 44(2), 98–110.
- Lin, J. Z., Xiao, J. Z., & Tang, Q. (2008). *The roles, responsibilities and characteristics of audit committee in China*. *Accounting, Auditing and Accountability Journal* (Vol. 21). <https://doi.org/10.1108/09513570810872987>
- Madi, H. K., Ishak, Z., & Manaf, N. A. A. (2014). The impact of audit committee characteristics on corporate voluntary disclosure. *Procedia - Social and Behavioral Sciences*, 164, 486–492. <https://doi.org/10.1016/j.sbspro.2014.11.106>
- Meek, G. K., Roberts, C. B., & Gray, S. J. (1995). Factors influencing voluntary report disclosures by U.S., U.K. and Continental European multinational corporations. *Journal of International Business Studies*, 26(3), 555–572.
- Modugu, K. P., & Eboigbe, S. U. (2017). Corporate attributes and corporate disclosure level of listed companies in Nigeria : A post-IFRS adoption study. *Journal of Finance and Accounting*, 5(2), 44–52. <https://doi.org/10.12691/jfa-5-2-3>
- Mohammadi, M. A. D. (2018). *Corporate Governance and Financial Information Disclosure in a Developing Country*. University Teknologi Malaysia.
- Nguyen, T., Locke, S., & Reddy, K. (2014). A dynamic estimation of governance structures and financial performance for Singaporean companies. *Economic Modelling*, 40, 1–11.
- Ntim, C. G., Opong, K. K., Danbolt, J., & Thomas, D. A. (2012). Voluntary corporate governance disclosures by post-Apartheid South African corporations. *Journal of Applied Accounting Research*, 13(2), 122–144. <https://doi.org/10.1108/09675421211254830>
- Othman, R., Farhana, I., Maznah, S., Arif, M., & Abdul, N. (2014). Influence of audit committee characteristics on voluntary ethics disclosure. *Procedia - Social and Behavioral Sciences*, 145, 330–342. <https://doi.org/10.1016/j.sbspro.2014.06.042>
- Persons, O. S. (2005). The relation between the new corporate governance rules and the likelihood of financial statement fraud. *Review of Accounting and Finance*, 4(2), 125–148.
- Sami, R.M. & Musallam. (2018). The direct and indirect effect of the existence of risk

- management on the relationship between the audit committee and corporate social responsibility disclosure. <https://doi.org/10.1108/BIJ-03-2018-0050>
- Rouf, M. A. (2016). Board diversity and corporate voluntary disclosure in the annual reports of Bangladesh. *Risk Governance and Control: Financial Markets and Institutions*, 6(4), 48–55.
- Samaha, K., Khlif, H., & Hussainey, K. (2015). The impact of board and audit committee characteristics on voluntary disclosure: A meta-analysis. *Journal of International Accounting, Auditing and Taxation*, 24, 13–28. <https://doi.org/10.1016/j.intaccudtax.2014.11.001>
- Shehata, N. F. (2014). Theories and Determinants of Voluntary Disclosure. *Accounting and Finance Research*, 3(1), 18–26. <https://doi.org/10.5430/afr.v3n1p18>
- Uzun, H., Szewczyk, S. H., & Varma, R. (2004). Board composition and corporate and corporate fraud. *Financial Analysts Journal*, 33–43.
- Wagana, D. M., & Nzulwa, J. D. (2016). Corporate governance, board gender diversity and corporate performance: A critical review of literature. *European Scientific Journal*, 12(7), 221–234. <https://doi.org/10.19044/esj.2016.v12n7p221>
- Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, 105(3), 581–606. <https://doi.org/10.1016/j.jfineco.2012.03.005>
- World-Bank. (2011). *Report on the observance of standards and codes (ROSC) Nigeria, accounting and auditing*. Retrieved from [http://www.worldbank.org/ifa/rosc\\_aa\\_nga.pdf](http://www.worldbank.org/ifa/rosc_aa_nga.pdf)
- Wu, H., Patel, C., & Perera, H. (2015). Implementation of audit committee and independent director for financial reporting in China. *Advances in Accounting*, 31(2), 247–262. <https://doi.org/10.1016/j.adiac.2015.09.005>
- Xie, B., Davidson, W. N., & Dadalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance*, 9(3), 295–316. [https://doi.org/10.1016/S0929-1199\(02\)00006-8](https://doi.org/10.1016/S0929-1199(02)00006-8)
- Zhou, H., Owusu-ansah, S., & Maggina, A. (2018). Journal of International Accounting, Board of directors, audit committee, and firm performance: Evidence from Greece. *Journal of International Accounting, Auditing and Taxation*, 31(March), 20–36. <https://doi.org/10.1016/j.intaccudtax.2018.03.002>