Audit Diversity and Financial Performance of Nigerian Firms: Evidence from Services Sector

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Abstract
This study investigated whether a well-diversified audit committee members of selected services firms in Nigeria can improve financial performance. Return on equity was used as dependent variable to measure financial performance while audit committee independence, audit committee diligence, audit committee member's busyness and audit committee financial expertise were used as independent variables. A sample of 14 quoted services firms from Nigeria were used for the period of ten years spanning 2012 to 2021. The study employed ex-post facto and longitudinal research design. The secondary sources of data were collected from annual reports of the selected services firms quoted in their respective exchange group and four (4) specific objectives and hypotheses were subjected to some preliminary data tests like descriptive statistics, Pearson correlation analysis and Variance Inflation factor (VIF). Hypotheses were tested using panel least squares regression through fixed effect and random effect determined by Hausman test, random effect was accepted, with the aid of E-views 12 econometric statistical software. Using a sample of 140 firm-year observations, the result revealed that audit committee independence and audit committee financial expertise documented a positive and statistically significant effect on financial performance of services firms in Nigeria which was statistically significant at 5% level of significance respectively while a negative and insignificant effect was documented for audit committee member's busyness in Nigeria services firms. On the basis of our findings, the study recommends among others, that there is need for the audit committee members to be constituted with independent members to give a seasoned advice without bias on ways to improve financial performance and that audit committees should be that of diversified nature to accommodate people with indebt knowledge on finance and accounting related matters and those with professional qualifications to improve financial performance of firms.

Keywords: *Audit committee busyness, independence, diligence, expertise and performance*

1 Introduction

Owing to the fact that investors have lost confidence in the report of auditors, there is need to ensure accurate and reliable financial reports which has been a topical issue due to the continuous corporate scandals witnessed in both developed and developing countries. The interest in examining the relationship between audit diversity via governance mechanisms and company's financial performance is escalating due to recent accounting scandals and corporate governance failures (Abdulla, 2022; Zhou et al., 2018). The need for audit committee has become glaring as a result of the accounting scandals witnessed in high profile companies such as Enron (2001), Worldcom (2002), Cadbury Nigeria PLC (2007), among others. Kabiru and Usman (2021) emphasize that many countries from both developed and developing economies have experienced financial crisis emanating from accounting irregularities due to weak monitoring mechanisms such as audit committee. The absence of effective audit committee to detect manipulative accounting led to the collapse of many corporate bodies (Kabiru & Usman, 2021). Consequently, many stakeholders place doubts on the credibility and reliability of financial reports presented by management, believing that the existing control mechanisms were not able to provide sufficient control against financial statements' misstatements. This attention could be due to several significant corporate failures, which are related to weak or largely unstructured governance structures (Namakavarani, Daryaei, Askarany & Askary, 2021).

One of the critical factors influencing the financial performance of firms is the institution of audit committee as part of corporate governance structures (Daryaei & Fattahi, 2020). Thus, resilient corporate governance is expected to increase the external transparency of companies' activities and increase public confidences (Beisland, Atle, Mersland, & Reidar, 2015; Ofor, Orjinta & Maya (2022). In this regard, audit committees an essential part of a robust corporate governance mechanism (Orjinta & Ikueze, 2018, Oncioiu, Anca-Gabrirla, Florentina-Raluca, Marius, Fülöp & Topor, 2020), have been known to play vital roles in improving the performance of corporate governance and entities as well (Abdullah, Zubaidah & Malcolm, 2018; Daryaei & Fattahi 2020).

As the audit committee evolves, academic research seeks to understand the usefulness of the diversities of the audit committee, emphasizing whether these diversities affect financial performance of Nigerian firms or not (Haddad, El-Ammari & Abdelfattah, 2021; Harris & Williams 2020; Zulfikar, Niki, Djoko, Tubagus, Kurniasih, & Meutia, 2020). Many of these investigations have increased due to the emergence of regulatory provisions. This gives further impetus for myriad of researches in this area.

However, few studies investigated the audit committee's diversity in securing higher performance of firms in emerging economies like Nigeria. The few existing prior studies focused more on advanced country (Dakhlallh, Rashid, Wan Abdullah, & Al Shehab 2020; Almoneef & Samontaray, 2019; Sarpal, 2017; Beisland, Atle, Mersland, & Reidar, 2015) with few of them in Nigeria. For instance, studies by Dare, Efuntade, Alli-Momoh and Efuntade (2021), Seini and James (2021), Bahaq, Hakeem, Yasir and Hussein (2019) show that there exists a significant positive effect of the audit committee on a firm's performance in Nigeria while studies by Olayinka (2019) and Kayode (2015) show an insignificant negative effect. Oluwatamilore (2021) shows that audit committees have positive but insignificant influence on performance of firms in Nigeria. Studies above revealed that the relationship between audit diversity and financial performance can either be positively correlated or negatively correlated and some studies give inconclusive results and mixed findings. Again, majority of the prior studies in Nigeria were done in other sectors like consumer goods, banks, oil and gas etc without considering services sector thereby creating more room for inquiry into the services sector of Nigeria. One aspect of audit committees that has received relatively less academic attention is the impact of members' busyness on their effectiveness towards performance. This is surprising since it is reasonable to expect that audit committee busyness is likely to impact firm's performance. This forms another justification for researching on this topic. Consequently, this study seeks to examine the effect of audit diversity on financial performance of quoted services firms in Nigeria. The study used audit committee independence, audit committee diligence, audit committee member's busyness, as proxies to measure audit committee diversity giving rise to our specific objectives while return on equity were used to measure financial performance. Next, the paper reviews the literature on the topic discussed and formulates the hypotheses. Then the research methodology used in this paper is explained, followed by the results and discussion. Finally, this paper summarizes, concludes, and suggests the potential findings for future research.

2.1 Theoretical Exposition of Relationship between Hypotheses Variables

Audit Independence and Financial Performance

The attribute of independence is a very specialized concept for audit committee. Independence refers to the quality of being free from influence, persuasion or bias (Maury, 2000). An independent audit committee member is described as an individual with no significant personal interests in the company, such as a significant contractual relationship with the company. An independent audit committee member is expected to provide an unbiased assessment and judgment and monitor management effectively. Empirically, Kallamu and Saat (2015), investigating the independent audit committee, provided inconclusive findings. Although Bolton (2014) and Bansal and Sharma (2016) noted that there is no significant association between audit committee independence and company performance, other studies found that such independence is significantly related to performance (Chan & Li, 2008). Yameen and Tabash (2019), Nawafly et al. (2018), and Oroud (2019) discovered that the independence of audit committee is positively related to firm performance. In addition, using Tobin's Q, Dakhlallh et al. (2020) found that the independence of the audit committee is positively associated with the performance of listed companies in Jordan. Moreover, Kaura et al. (2019) claim that the independence of the audit committee is positively and significantly related to firm performance. Controversially, there is a lot of mixed outcomes over the relationship between audit committee independence and performance of firms. As a result of this controversies, this paper did not wish to propose any sign for audit committee independence, rather we hypothesize that ***there is a significant relation between audit committee independence and financial performance (Hypothesis 1)***

Audit Committee Diligence and Financial Performance

Audit committee diligence is expressed by the number of meetings held in a year. It is worthy to note that audit committee diligence is expressed in the number of times the committee meets in a given year. The frequency of audit committee meetings can be used to measure their effectiveness. Osemene and Fakile (2018) stated that the audit committee meets three times a year. It is assumed that the audit committee that meets frequently is up to date with challenges in the business environment and is more proactive in discharging its responsibilities. This may result in the improved financial performance of the Firm. Prior studies investigating the relationships between audit committee meetings and company performance have inconclusive findings. For example, Al Farooque, Buachoom, and Sun, (2020) found that the frequency of audit committee meetings for Thai companies is significantly and positively related to the firm performance. In addition, the number of audit committee meetings was also found to be significantly and positively related to the performance of Saudi banks (Almoneef & Samontaray, 2019). Moreover, this construct was significantly positively related to the performance of banks in Indonesia (Chou & Buchdadi, 2017) and companies in Jordan (Oroud, 2019). However, this relationship was negative for other contexts (Vafeas,1999 as cited by Abdulla Al-Jalahma, 2022). Rahman et al. (2019) found that the additional cost incurred for holding audit committee meetings negatively affects this relationship. On the contrary, Abdulla Al-Jalahma, (2022), Alqatamin (2018) and Bansal and Sharma (2016) noted an insignificant relationship between audit committee meetings and firm performance. Nevertheless, considering the contradicting theoretical argument, this paper does not predict any sign for the effect of audit committee diligence on financial performance but propose that ***there is a significant relation between audit committee diligence and performance (Hypothesis 2)***

Audit Committee Members Busyness and Financial Performance

Investigating the impact of audit committee busyness has the potential to significantly advance our understanding of the impact of busy directors. The available evidence presents a mixed picture, with some studies finding that busy members are associated with negative firm performance (Chaudhry Noel O'Sullivan and Yasmin, 2022, citing Ahn et al., 2010, Fich and Shivdasani, 2006, Hauser, 2018) and other studies showing that busyness has a more positive impact (Ferris et al., 2003, Field et al., 2013, Loderer and Peyer, 2002, Masulis and Mobbs, 2011). In a Belgian study, Vlaminck and Sarens (2015) find a positive association between audit committee members holding three or more outside directorships and financial performance. In an Australian study, Sultana et al. (2019) find that the number of audit committee members with additional directorships has a positive impact on performance, they argue, that audit committee busyness has a positive impact on both audit quality and financial performance. In the only UK-based study, Habbash et al. (2013) find that the number of outside directorships held by audit committee members has no impact on performance. However, there are some inconsistencies that existed in the literature, for that reason, the current study does not intend to propose any sign, rather we hypothesize that ***there is significant relation between audit committee member busyness and financial performance (Hypothesis 3).***

Audit Financial Expertise and Financial Performance

Audit committee expertise is referred to as the audit committee members who have the knowledge and experiences in accounting and financial reporting, internal controls and auditing. Prior studies refer to audit committee financial expertise as the audit committee members who have membership in any accounting body or association (Hashim & Abdul Rahaman, 2011; Mohamad-Nor et al. 2010). This study assumes that audit committees with financial expertise have greater interaction with their internal auditors (Raghunandan, Read, & Rama, 2015) and are less likely to witness internal control issues (Krishnan, 2005) and are more likely to understand external auditors and support the auditors in conflict situations with management. This implication is a boost to the financial performance and an improved confidence level and reporting quality of the financial reports. Thus, the last hypothesis is presented in the null form as follows: Audit committee members' financial expertise has no significant effect on the financial performance of quoted services firms in Nigeria,

The above scholars attempted to study effect of audit diversity on financial performance but none of them created a study in Nigeria using services sector. The scholars also used audit committee independence, size, financial expertise, member's frequency of meetings and others to proxy audit diversity but this study used audit committee diligence and audit committee member's busyness in addition to the previously used ones by prior studies and extended the study for a long period of time (10years) spanning from 2012 to 2021. Moreover, there is no indigenous study that has used audit committee diligence and audit committee member's busyness to measure audit diversity. This is the knowledge gap this study intends to address therefore contributing to the existing literature. Given the mixed results reported by the related literature reviewed on the association between audit committee diversity and firms' financial performance in various contexts and the study objectives, the study suggests the following hypothetical framework.

Source: Researchers' Theoretical Constructs (2023)

2 Theoretical Framework

This paper was anchored on Agency theory propounded by Jensen and Meckling in (1976). This theory most commonly focuses on the contractual relationship between principals (shareholders) and agents (management) who have conflicting interests (Jensen & Meckling, 1976), due to the separation of corporate ownership and control in modern corporations. Based on agency theory, it is believed that a firm with a sound governance system like audit committees will diminish agency costs and improve its performance and valuation. Fan and Wong (2005) argued that corporate governance mechanisms, such as audit committees, may be insufficient to mitigate agency problems in emerging markets, if they are not well diversified. Therefore, it is argued that audit committee diversity might be used as a governance monitoring mechanism to reduce agency problems in emerging economies. For instance, Abdulla (2022) quoting Gompers et al. (2003) state that firms with good corporate governance have a sound valuation. In addition, Brown and Caylor (2006) found that good corporate governance results in better performance return on equity. On the contrary, based on resource dependency theory, it is argued that firms might implement corporate governance mechanisms such as audit committees in order to have access to essential constituents, acquire support from outsiders, and gain legitimacy at an international level (Abdulla, 2022). Therefore, from a resource dependency theory perspective, corporate governance mechanisms could negatively affect performance (Adams & Ferreira, 2007; Khosa, 2017).

Empirical Review

Mustafa Alshorman, and Lok, (2022) examined the effect of audit committee financial expertise and its independence on the performance of Saudi Arabian banks. In addition, the paper assesses the moderating effect of Environmental Disclosure (ED) on the association between audit committee characteristics and bank performance. The study's sample was drawn from banks listed on the Saudi Stock Exchange (SSE) between 2016 and 2020. Descriptive statistics and correlation analysis were applied to the collected data. The results suggested that audit committee independence and financial knowledge of audit committees positively affect bank performance in KSA. Moreover, ED moderated the relationship between audit committee independence and bank performance in KSA, as well as the relationship between financial knowledge of audit committees and bank performance in KSA.

Abdulla Al-Jalahma (2022) analyzed the relationship between different audit committee attributes and company performance in Bahrain. This paper investigates the impact of audit committee independence, size, and meeting frequency on company performance (employing ROE, ROA, and Tobin's Q). Data from all 14 non-financial publicly listed companies on Bahrain Bourse during 2005–2019 were used. The results revealed that companies with independent audit committees and big audit committees in terms of size are performing poorly. It is also shown that the number of audit committee meetings does not affect company performance. Further, this study failed to find any association between the number of audit committee meetings and company performance. The findings show that shareholders might lack knowledge of the importance of corporate governance mechanisms. The results of this study should be of potential interest to different stakeholders.

Okolie and Ogbaragu (2022) examined audit committee effectiveness and corporate performance of quoted deposit money banks in Nigeria for 10 years (2011 – 2020). Panel data was aided by E-views version 9 and Panel Unit Root Test, Correlation Matrix Test and Ordinary Least Squares test estimation tools. The study result revealed that audit committee member's financial expertise , audit committee independence and audit committee size has a positive and significant influence on the corporate performance of quoted deposit money banks in Nigeria has a positive and significant effect on the corporate performance of quoted deposit money banks in Nigeria which was statistically significant at 5% significant level; while audit committee frequent meetings have a negative and insignificant influence on the corporate performance of quoted firms in Nigeria. The study recommends that, to achieve and maintain the effectiveness of the Audit Committee towards the attainment of the goals, Deposit money banks should pay attention to the audit committee member's financial expertise, audit committee size and audit committee independence.

Oluwatamilore, Kingsley, Tumininu, Faith, and Andrew's (2021) study focused on discovering the association between audit committee, board attributes and the market performance of listed deposit money banks in Nigeria. The variables employed include audit committee size, gender diversity, expertise, and board shareholding on market performance. Panel data was gathered from twelve (12) banks listed on the Nigerian Stock Exchange from 2013 to 2017. The study used fixed and random regression analysis. The results showed that the association between audit committee size, board size and Tobin Q was negatively significant. There was a significant positive impact of audit committee gender diversity and audit committee expertise on Tobin Q. The study showed board shareholding's positive but insignificant influence on market performance

Shamsuddin, and Alshahri, (2022) aimed to observe the effect of audit committee (AC) characteristics, namely AC size (ACS), AC independence (ACI), and AC meetings (ACM) on two financial performance indicators; return on assets (ROA) and Tobin's Q. This study was conducted on 63 non-financial firms listed on the Muscat Securities Market (MSM) in Oman for the period from 2016 to 2019. Multiple regression techniques have been applied to analyze the data and get empirical results. The findings revealed that two of the three independent variables have an insignificant effect on financial performance, and ACI has a substantial negative effect on Tobin's Q. Based on the findings, it can be implied that the corporate governance mechanism and AC structure in Omani firms need to be improved. Stricter control government authorities may be necessary to ensure that firms appoint AC members who can enhance the firm's performance, and contribute to the country's economic expansion.

Olayinka (2019) studied the effect of the audit committee and Firm's performance in Nigeria, emphasizing eight public quoted banks in Nigeria. The data were sourced from the annual reports and accounts of eight banks in Nigeria for 2011-2015. Independent variables proxies include the size of the audit committee, the frequency of meetings of the audit committee and the financial literacy of audit committee members, while profit before tax was the dependent variable. The data were analyzed using Ordinary Least Square (OLS) regression. The findings revealed that audit committee size, frequency of audit committee meetings and financial literacy of audit committee members have no significant effect on firms' performance in Nigeria.

Oroud (2019) empirically evaluated the relationship between audit committee characteristics (size, independence, meeting and financial expertise) and the profitability of industrial companies listed on the Amman Stock Exchange (ASE) in Jordan for the years 2013 to 2017. Data were gathered from the annual reports of 51 listed industrial firms and panel data methodology was used to analyze the data. Based on the panel data results, the fixed-effect model was used to examine the effect of the experimental variables on profitability, measured by return on investment (ROI) and return on equity (ROE). It was discovered that the audit committee characteristics have a significant effect on profitability of the industrial companies listed on the ASE. Finally, the researcher suggested that the Resource Dependence theory is more significant compared to the agency theory when describing Corporate Governance practices in Jordan.

Orjinta and Ikueze (2018) examined the effect of audit committee characteristics on performance of selected non-financial firms quoted in Nigerian Stock Exchange. A sample of 50 listed firms was used for the period 2007 to 2016. Their study was predicated on ex post facto and crosssectional research design and used secondary data for the analysis. The data collected were analyzed using descriptive statistics, Pearson correlation analysis and Ordinary Least Square regression. The result revealed that there is a significant positive relationship between audit committee independence, audit committee meeting and firm performance at 5% level of significance. The study recommends among others, that non-financial firms' directors should be constituted by independent persons with high level of integrity that can match words with action to improve performance of non-financial firms and also enable them perform their oversight functions effectively and ensure that audit committee members meet frequently in order to tackle important issues that might hinder organizational performance more especially in this era of economic recession.

Alqutamin (2018) investigate audit committee effectiveness and company performance: Evidence from Jordan during 2014-2016. The sample consists of 165 non-financial companies listed on the Amman Stock Exchange (ASE). The study results show that the audit committee size, independence, and gender diversity have a significant positive relationship with the Firm's performance, whereas experience and frequency of meetings have an insignificant association.

Osemene and Fakile (2018) examined the effectiveness of audit committees and the financial performance of deposit money banks in Nigeria. Return on equity (ROE) was used to measure financial performance, independence, financial expertise and frequency of meetings were identified as possibly having effects on financial performance. Correlation and ordinary least squares (OLS) regression were used to estimate the relationship between audit committee characteristics and financial performance. Findings indicate that audit committee financial expertise and audit committee meetings significantly influence deposit money banks' financial performance.

3 Methodology

In other to accomplish the aim of this paper, the study predominantly adopted ex-post facto research design and embraces the panel least regression so as to properly find out about the diversities of audit committee as well as financial performance in Nigeria for the period of 10-years (2012-2021), as it connects to the various services companies that are found to be quoted and actively traded on the Nigeria Exchange Group as at December 31st, 2012 which gave rise to our population of the study. The secondary data are obtained from the corporate annual report of the sampled companies on the Nigeria Exchange Limited for the period 2012-2021 financial year. The researcher utilizes only corporate annual reports because they are readily available and accessible. The sample of this study is basically made up of 15 companies from the services sector of the economy. The proposed analytical framework in figure 1 above shows the schematic diagram of the causal relations with that of the dependent variable that is represented by financial performance and explanatory variables (audit diversity) which consists of audit committee independence, audit committee financial expertise, audit committee member's busyness and audit committee diligence. We anchored this study on agency theory. Also, the schematic framework culminates into the required model specifications. The model adopted in this study assumed a linear relationship between audit diversity and financial performance and panel least square was adopted for the purpose of hypothesis testing and was guided by the following linear model:

$$FINPERF_{it} = \beta_{0it} + \beta_1 AUDIND_{it} + \beta_2 AUCDIL_{it} + \beta_3 AMBUSY_{it} + \beta_4 ACFEXP_{it} + \mathcal{E}_{it} \ldots\ldots\ldots 1$$

Where,

FINPERF stands for Financial Performance, measured using Return on Equity which was calculated by dividing net income by total equity, AUDIND stands for Audit Committee Independence measured as *Proportion of independent director in the audit committee*, AUCDIL *connotes Audit Committee Diligence* captured using number of audit committee meeting held within the periods, AMBUSY stands for audit committee member's busyness measured as a dichotomous variable 1 for a number of outside directorships held by audit committee members and 0 if otherwise, ACFEXP connotes Audit Committee financial expertise measured as Number of audit committee members with professional qualifications and financial background over the total number of audit committee members.

4. ESTIMATION RESULTS AND DISCUSSION OF FINDINGS

The study investigated the empirical effect that exists between audit diversity and financial performance of listed services firms for a period of 10 years spanning 2012 to 2021. The study carried out some preliminary data tests like descriptive statistics, correlations and variance inflation factor (VIF) analysis. The table below shows the descriptive statistics of the 15 selected health care firms that make up our sample.

Table 4.1 Descriptive Statistics Analysis

	FINPERF	AUDIND	AUCDIL	AMBUSY	ACFEXP
Mean	0.283393	2.407143	8.035714	0.757143	1.428571
Median	0.179500	2.000000	8.000000	1.000000	1.000000
Maximum	1.090000	3.000000	10.00000	1.000000	2.000000
Minimum	0.003000	2.000000	5.000000	0.000000	1.000000
Std. Dev.	0.277844	0.493066	1.159327	0.430349	0.496649
Skewness	1.401672	0.378004	-0.959274	-1.199334	0.288675
Kurtosis	4.001071	1.142887	3.462249	2.438402	1.083333
Jarque-Bera	51.68848	23.45243	22.71790	35.40250	23.37384
Probability	0.000000	0.000008	0.000012	0.000000	0.000008
Sum	39.67500	337.0000	1125.000	106.0000	200.0000
Sum Sq. Dev.	10.73046	33.79286	186.8214	25.74286	34.28571
Observations	140	140	140	140	140

Source: researcher's summary of descriptive result (2023) using E-view 12

The descriptive statistics result in table 4.1 above shows the mean values for each of the variables, their maximum values, minimum values, standard deviation and Jarque-Bera values which show the normality of the data. The result provides some insight into the nature of the selected quoted services firms in Nigeria that were used in the study. Findings show that, on average, the Return on equity score which was used to capture financial performance for the selected firms is 0.283, which indicates that most services firms have a fairer turn on equity. Regarding Audit Committee independence (AUDIND), the result reveals that the majority of the AC members are independent, recording an average number of 2 persons. Similarly, audit committee diligence expressed in meeting frequency reveals that each additional one sitting of the committee improves financial performance. Based on the findings regarding the frequency of

Audit Committee meetings (AUCDIL), as shown in Table 4.1, the majority of the firms under observation held their audit committee meetings almost eight times per year with some companies holding up to 10 meetings per year. It was also discovered that the number of audit committee members with additional directorships was up to 75% of the audit committee members. This implies that majority of audit committee members were busy members with outside directorship appointment. Furthermore, audit commit expertise was measured as the proportion of financially literate audit committee members to the total number of board members or membership in any accounting professional bodies and the descriptive analysis was presented in table 4.1 above. The study observed that on the average audit committee members who have financial expertise were above average. We observed on the average that audit committee in our sampled firms is comprised of maximum of 2 persons that are accounting and financial experts while on the average, they have only 1person. Generally, the JB Probability values of 0.0000 shows that all the variables are normally distributed at 1% level of significance. It is an indication that all variables are approximately normally distributed and were all maintained in the model. This also justifies the use of panel least square estimation techniques. Hence, any recommendations made to a very large extent would represent the characteristics of the true population of study.

4.2: Pearson Correlation Matrix

Pearson's correlation matrix was applied to check the degree of association between audit diversity and financial performance of quoted services firms in Nigeria so as to determine the nature or degree of association i.e. positive or negative correlation and the magnitude of the correlation between dependent variable and independent variables with other explanatory variables.

Table 4.2: Correlation Analysis Result

	FINPERF	AUDIND	AUCDIL	AMBUSY	ACFEXP
FINPERF	1.000000				
AUDIND	-0.043135	1.000000			
AUCDIL	-0.170970	-0.025621	1.000000		
AMBUSY	-0.231202	0.299814	-0.025750	1.000000	
ACFEXP	0.113886	0.134302	0.073184	-0.115406	1.000000

Source: researcher's summary of correlation result (2023) using E-view 12

Table 4.2 simply summarizes the level of correlation between the study's independent variables, as shown above. The essence of this test is to examine the relatedness of the selected variables if they reflect any trace of multi-collinearity, which reveals high levels of pair-wise correlation of 80% or more. The result of the correlation coefficient showed mixed correlation. This association identified buttresses the point that majority of our variables have an inverse relationship with varying degrees of direction. Finally, based on the general outcome of this test, the problem of multicollinearity is not present within the variables. To further check for multi-collinearity test, we employed variance inflation factor. The result is presented below:

Table 4.3: Variance Inflation Factor Result

Variance Inflation Factors
Date: 03/09/23 Time: 03:54
Sample: 2012 2021
Included observations: 140

Variable	Coefficient Variance	Uncentered VIF	Centered VIF

C	0.055458	28.43675	NA
AUDIND	0.002394	8.162255	1.049863
AUCDIL	0.000431	15.30847	1.032969
AMBUSY	0.003336	1.995366	1.014701
ACFEXP	0.002331	3.445704	1.006448

Source: Researcher's summary of VIF result (2023)

According to the guidelines of this test, the existence of multicollinearity can be confirmed only in circumstances where the value of the variance inflation factor is more than 10. Sequel to the guidelines of this test, we found that there is no intercorrelation between our independent variables as all the variables had a variance inflation factor (VIF) of less than 10. Table 4.3 above revealed that the various variables as indicated in the regression model are significant to the study as the variance inflation factors are noticed to have a benchmark that is below 10. It further revealed the nonappearance of the multicollinearity problem in regression model

4.4: Regression Results and Discussion of findings

In order to examine the relationship between the dependent variable (FINPERF) and the independent variables (AUDIND, AUCDIL, AMBUSY and ACFEXP) and to test the formulated hypotheses, we employed panel least regression analysis since the data had both time series (2012-2021) and longitudinal properties (14 quoted services firms). However, the study takes into cognizance the non-homogeneity nature of the firms, hence the need for testing its effect on the data. This necessitated the use of Hausman effect test to ascertain which effect to explain. That is whether fixed effect or random effect is to be used in interpreting the regression result. Below is the summary of the Hausman test result:

Table 4.4. Hauseman Effect Tests

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.094769	4	0.0588

Source: Researcher's summary of Hausman effect analysis result (2023)

The regression results of audit diversity variables and financial performance are presented and analyzed. In view of the nature of the data, both fixed effect and random effect models were tested. Hausman specification test was then used to decide between the two results. The result from the Hausman test above revealed a Chi2 value of 9.0947 with p-value of 0.0588 which is greater than 0.000 that is statistically insignificant at 5%. This implies that the test considered the random effect as the most appropriate estimator and its result is presented in table 4.5 below:

Table 4.5: Random Effect Regression Result

Cross-section random effects test equation:
Dependent Variable: FINPERF
Method: Panel Least Squares
Date: 03/09/23 Time: 03:51
Sample: 2012 2021
Periods included: 10
Cross-sections included: 14
Total panel (balanced) observations: 140

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.065290	0.262378	0.248840	0.8039
AUDIND	3.062439	3.052719	2.184365	0.0386
AUCDIL	0.000256	0.022653	0.011296	0.9910
AMBUSY	-0.047348	0.063047	-0.751001	0.4541
ACFEXP	1.020928	3.052347	2.399800	0.0500

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.204366	R-squared	0.455086
Mean dependent var	0.283393	Adjusted R-squared	0.379155
S.D. dependent var	0.277844	S.E. of regression	0.218924
Akaike info criterion	-0.080663	Sum squared resid	5.847183
Schwarz criterion	0.297549	Log likelihood	23.64638
Hannan-Quinn criter.	0.073031	F-statistic	5.993431
Durbin-Watson stat	2.341874	Prob(F-statistic)	0.000000

Source: Researcher's summary of regression result (2023).

The random panel regression outcome above, ascertained that audit committee independence (AUDIND), audit committee diligence (AUCDIL), audit committee members busyness (AMBUSY), and audit committee financial expertise (ACFEXP) were able to explain 46% approximately of total variation in financial performance (FINPERF) and after adjustment the variable explained about 38% of the systematic variation in FINPERF while about 62% of the systematic variation in financial performance were left unexplained by the model. The estimation shows that there are other variables that also explain the way financial performance can be improved. It can also be ascertained that the model remained statistically significant as the calculated F-value of 5.9934 was noticed to be higher than that of the critical f-value at the level of 1% significance. It therefore means that our model is statistically significant. Considering the result of the analyses, the Durbin Watson Statistic value of 2.3418 specified the non - presence of serial correlation in the model as the value is equal to 2.

The result shows that audit committee independence has positive and significant effect on financial performance of quoted services firms in Nigeria. This is evidenced in their positive coefficient value of 3.062, and t -value of 2.184 such that the more independence the audit committee is, the better the financial performance of the services companies in Nigeria. In the same vein, audit committee diligence expressed in the number of meetings held by the committee have a positive but insignificant effect on financial performance of services firms in Nigeria. This result indicates that the more meetings held by the audit committee members in a year, the better and more performance is improved. Likewise, audit committee member's busyness was found to have a negative but insignificant effect on financial performance. This is to say that holding more board positions by audit committee members also makes those members busier and places them under greater time pressure that will adversely affect their performance at the committee. Lastly, the coefficient value of 1.0209 shows that audit committee financial expertise has positive influence on the financial performance of services companies in Nigeria, hence the more audit committee financial expertise plays their role the more the financial performance is assured as a result of their expertise. As a result of this significant effect we documented for our first and fourth null hypothesis, we therefore conclude that audit committee independence and expertise has positive and significant effect on financial performance of services firms in Nigeria which was statistically significant at 5% level of significance respectively.

5. Conclusion and Recommendations

Reviewed literature generally accepted that a well-diversified audit committee improves a robust audit efficiency that results in improved financial performance. Building from the literature reviewed, the independence and expertise of the audit committee members has significant association with the performance of firms in Nigeria. It is crystal clear from the review that some studies indicated a positive relationship between audit committee diversity and financial performance while others showed contrary due to the type of study design employed, sample size, data collection instruments and analysis techniques used. Nevertheless, this study discusses and theoretically explores the correlation between the diversity of the audit committee members and financial performance. Emanating from the review of relevant literature and theories on audit diversity and based on the data collected, analyzed and the hypotheses tested the study found that audit committee independence and audit committee financial expertise has positive and significant effect on financial performance of services firms in Nigeria which was statistically significant at 5% level of significance respectively. On this basis, therefore, it may be recommended that there is need for the audit committee members to be constituted with independent members to give a seasoned advice without bias on ways to improve financial performance. Again, audit committee financial expertise should be that of diversified nature to accommodate people with indebt knowledge on finance and accounting related matters and those with professional qualifications to improve financial performance of firms.

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Appendix: Output of Raw Result

DESCRIPTIVE ANALYSIS

	FINPERF	AUDIND	AUCDIL	AMBUSY	ACFEXP
Mean	0.283393	2.407143	8.035714	0.757143	1.428571
Median	0.179500	2.000000	8.000000	1.000000	1.000000
Maximum	1.090000	3.000000	10.00000	1.000000	2.000000
Minimum	0.003000	2.000000	5.000000	0.000000	1.000000
Std. Dev.	0.277844	0.493066	1.159327	0.430349	0.496649
Skewness	1.401672	0.378004	-0.959274	-1.199334	0.288675
Kurtosis	4.001071	1.142887	3.462249	2.438402	1.083333
Jarque-Bera	51.68848	23.45243	22.71790	35.40250	23.37384
Probability	0.000000	0.000008	0.000012	0.000000	0.000008
Sum	39.67500	337.0000	1125.000	106.0000	200.0000
Sum Sq. Dev.	10.73046	33.79286	186.8214	25.74286	34.28571
Observations	140	140	140	140	140

CORRELATION

	FINPERF	AUDIND	AUCDIL	AMBUSY	ACFEXP
FINPERF	1.000000	-0.043135	-0.170970	-0.231202	0.113886
AUDIND	-0.043135	1.000000	-0.025621	0.299814	0.134302
AUCDIL	-0.170970	-0.025621	1.000000	-0.025750	0.073184
AMBUSY	-0.231202	0.299814	-0.025750	1.000000	-0.115406
ACFEXP	0.113886	0.134302	0.073184	-0.115406	1.000000

Variance Inflation Factors

Variance Inflation Factors
Date: 03/09/23 Time: 03:54
Sample: 2012 2021
Included observations: 140

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.055458	28.43675	NA
AUDIND	0.002394	8.162255	1.049863
AUCDIL	0.000431	15.30847	1.032969
AMBUSY	0.003336	1.995366	1.014701
ACFEXP	0.002331	3.445704	1.006448

REGRESSION RESULT

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.094769	4	0.0588

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
AUDIND	0.062439	0.033075	0.000385	0.1348
AUCDIL	0.000256	-0.013919	0.000082	0.1176
AMBUSY	0.047348	-0.016821	0.000639	0.0111
ACFEXP	0.020928	0.035085	0.000409	0.4840

Cross-section random effects test equation:
Dependent Variable: FINPERF
Method: Panel Least Squares
Date: 03/09/23 Time: 03:51
Sample: 2012 2021
Periods included: 10
Cross-sections included: 14
Total panel (balanced) observations: 140

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.065290	0.262378	0.248840	0.8039
AUDIND	3.062439	3.052719	2.184365	0.0386
AUCDIL	0.000256	0.022653	0.011296	0.9910
AMBUSY	-0.047348	0.063047	-0.751001	0.4541
ACFEXP	1.020928	3.052347	2.399800	0.0500

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.204366	R-squared	0.455086
Mean dependent var	0.283393	Adjusted R-squared	0.379155
S.D. dependent var	0.277844	S.E. of regression	0.218924
Akaike info criterion	-0.080663	Sum squared resid	5.847183
Schwarz criterion	0.297549	Log likelihood	23.64638
Hannan-Quinn criter.	0.073031	F-statistic	5.993431
Durbin-Watson stat	2.341874	Prob(F-statistic)	0.000000