Effect of the Interaction between Audit Firm Size and Audit Quality on the Financial Performance of Listed Consumer Goods Companies in Nigeria

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Abstract
Objective – The main objective of this study is to examine the effect of the interaction between audit firm size and audit quality on the financial performance of listed consumer goods companies in Nigeria.

Design/methodology – The sample used in this study are seventeen (17) listed consumer goods companies that merit the sampling techniques of the study for the period 2010-2020. The study used the GMM estimator techniques of data analysis.

Results – The results revealed that interaction of audit firm size and ACFE, and board size have positive and significant effect on the net profit margin as proxy for financial performance of listed consumer goods companies.

Research Limitations/Implications – The study is limited to consumer goods industries on Nigerian exchange group. Implication of this study is that it will improve the understanding of audit firm size and audit quality concept in practice at all levels of organization especially in the consumer goods companies’ environment where auditors and regulators when assessing the appropriateness of accounting policy choices, interest of stakeholders is highly considered. And thereby recommends that ethical standard should be encouraged by the regulatory agencies if not mandated as this will lead to improvement of audit quality.

Novelty/Originality – The originality of this research lies in the methodology of the study where previous studies only analyzed the data through standard econometric techniques such as OLS which do not provide unbiased estimates, due to the presence of the lagged dependent variable among the explanatory variables in which Generalized Method of Moments (GMM) used by this study addressed those issues. That makes this study a unique one and contribution to the body of knowledge.

Keywords: ACFE, Audit Firm Size, Audit Quality, Auditors Independence, Board Size, NPM

1. Introduction
The current business environment has undergone a rapid and significant transition that has had a significant impact on corporate organizations globally. In order to ensure and timely information for effective decision making and to maintain investors’ confidence and trust in the efficiency and effectiveness with which their portfolio interest are used, management responds to a fierce global competition by implementing improved quality and risk controlling initiatives, efficient structures, procedures, and superior accountability (Basioudi, 2014).

In an effort to maintain their stewardship role, organizations’ drivers of economic activity have steered a basic problem by establishing information asymmetry that has encouraged CEOs’ dishonest behavior, particularly with regard to the manipulation of accounting information. Earnings management is professed as determinations by management to control detailed earnings by the use of specific
accounting policies or quickening cost-income transactions, or the use of different methods planned to affect short-time income (Bowman & Navissi, 2013).

It is crucial to provide correct information to the department responsible for making decisions as well as to a shareholder. The information provided to the managers is subsequently used to determine the financial statements and the decision. When any business organization faces a drop in their financial position, they attempt to use different manipulation methods to shelter up their losses (Breu, 2005; Waqas, 2020). Because they must make investments depending on an organization’s financial status, shareholders and investors depend on its earnings. True financial reporting will therefore be advantageous for the company and the investors. When they forecast a loss in the future, posting incorrect earnings can occasionally help the businesses improve their financial situation. Financial managers use earning management techniques to transform the initial data into more advantageous results (Waqas, 2020).

Global regulatory organizations as well as the corporate climate in Nigeria have shown growing worry about aggressive earnings management. The reliance on financial reporting serves as a foundation for how shareholders and investors often evaluate the success of their firms (Bartov, Givoly, & Hayan, 2002). Earnings (net profits) serve as the foundation for a company’s economic performance and offer crucial information for conceivable investment decisions. Executive managers may have a tendency to present false financial outcomes in order to either satisfy the expectations of shareholders or pursue personal benefit.

Consequently, the financial statements prepared by an organization are the mirror used by stakeholders to judge the performance of the firm hence the quality of the reports is very important. Users of the statements make a financial decision basing the information displayed, judge the management competence using the financial information and serve as the benchmark for predicting the future performance of the company (Terry & Richard, 2017).

Every sensible corporate executive wants to make sure that the company’s long-term prospects are secure. The notion of accruals accounting necessitates the use of professional judgment while creating the statements of financial positions of the firm by ensuring that revenue and expenditure are matched with the related accounting periods. Young (1999) asserts that the reported financial statements’ reversal problem causes management roll-on accrual accounting to lack the ability to manipulate financial facts. Management does this to favorably affect the time involved in the recognition of economic transactions. Liabilities, for instance, could be postponed by underestimating how real a useful commitment is (Elliot, & Hanna, 1996). These address any liquidity-related red flags and further increase investor confidence in the company’s book value.

The audit quality performs a role in giving reasonable assurance to the various financial statement users as it relates to the reliability regarding the veracity of the statistics given in the financial accounts by the management. However, given the numerous incidents of corporate financial scandals in Nigeria, this appears to be pointless. Scandals like Cadbury Nigeria Plc, African Petroleum, Lever Brothers Nigeria Plc, and Nampak (Odia, 2007; Okolie & Agboma, 2008; Adeyemi & Fagbemi, 2010; Oluwagbuyi & Olowolaju, 2013; Okolie & Izedonmi, 2014) arose from audited financial statements in which the auditors failed to detect and report financial misstatements and manipulations, they have therefore, posed a significant challenge to the credibility of audit reports. This has brought a great deal of disappointment to investors and other stakeholders in the company financial reporting consequently, impacting negatively on investors’ economic decisions.
Due to recent corporate accounting scandals, the quality of reported earnings and the ability of audit quality to effectively control earnings management of firms all over the world, including Nigeria, have become highly questioned. (Gabriel, 2017; Tarek, 2017; Yulius, Arya & Indra, 2017). Recent corporate financial scandals have cast doubt on the audit function’s truthfulness, reliability, utility, or value relevance. The recent example of Arik Airline in 2017 regarding the financial scandals that further expose Nigeria’s managerial exploitation of employees served as the inspiration for this study (SEC, 2019). In addition, there is the case of Oando Oil Plc, which was caught declaring a dividend from unrealized profit and releasing a misleading annual report (Nairametrics, 2017) is what equally triggers the need to examine the moderating role of audit firm size on the relationship between audit quality and financial performance of listed consumer goods companies in Nigeria.

This study intends to answer the following research questions:

- How does the audit firm size moderate the relationship between audit committee financial expertise and financial performance of listed consumer goods companies in Nigeria?
- How does the audit firm size moderate the relationship between auditors’ independent and financial performance of listed consumer goods companies in Nigeria?

The significance of this work emanates from the fact that there is a scantiness of empirical evidence on audit quality, and financial performance of consumer goods firms most especially in developing economies. Therefore, there is no doubt that this work will contribute to the existing body of knowledge on the subject matter. Similarly, the findings of the work will be beneficial to shareholders, management, regulators, policymaker, and future researchers. The findings will also go a long way in giving the creditors, investors, and other users of financial statements a clue on how to assess the quality of audit; whether the involvement of a particular audit firm is capable of influencing their investment worth, then shedding a light towards what decisions to take in respect of their investment in the various companies and choices of auditor(s).

The study covered organizations’ audit quality, and the financial performance of sampled firms in Nigeria. In doing so, sampled consumer goods companies were considered for the study. This paper concentrates on consumer goods companies in the sense that the sector plays a critical role and consider one of the main generators of GDP in the continent's most populous nation. The study covered a period of eleven years ranges from 2010 - 2020.

2. Literature Review and Theoretical Framework

In the past, several attempts have been made to conceptualize "audit quality." But none of them has led to a definition that is widely acknowledged and approved. Audit quality is, in essence, a difficult and multifaceted concept. According to DeAngelo (1981), “the definition of audit quality that is most frequently employed is the market-estimated combined possibility that a particular auditor would both discover and reveal a flaw in the client’s accounting system”. The definition places emphasis on two essential components of audit quality: the independence and objectivity of the auditor and the competence of the audit company, both of which affect how probable it is that a misstatement will be found and what the auditor will do about it.

The audit quality has demonstrated this definition’s outstanding usefulness. DeAngelo's definition is that an audit is of high quality if there is a reasonable possibility that the auditor would discover and truthfully report material errors, misstatements, or omissions in the client’s statement of financial positions. According to DeAngelo, “the bigger the auditor, the less incentive it has to act opportunistically, and the higher the perceived appraised quality of the audit”. Lam and Chang (1994) contend that because
an audit organization might not perform every audit to the same caliber, the audit quality should be assessed for each service independently.

According to Khan (2006), the extent of direct audit involvement and the lens through which stakeholders view audit quality affect the audit quality across stakeholders. Inputs, outputs, and context factors are the three main angles through which audit quality can be viewed. Along with the auditing requirements, the auditor's abilities, background, moral standards, and perspective all contribute to the quality of the audit. The audit process, which includes the reliability of the audit methodology, the effectiveness of the audit instruments utilized, and the accessibility of sufficient technical support to perform a high-quality audit, is another significant contribution.

The definitions above is of believe that researchers are yet to conclude on an acceptable definition for audit quality that suits all purposes. This study adopts DeAngelo's explanation of audit quality because it captures the fundamental elements of quality audit which are competency and self-reliance of the auditor.

**Audit Firm Size:**

Many academics use audit firm size as a proxy since it is difficult to measure audit quality. Large audit firms are believed to perform more thorough audits. Larger audit businesses are therefore more likely than smaller audit firms to be linked to more accurate information (Trueman & Titman, 1989). Providing quality-differentiated audit services is, therefore, necessary for big audit firms to protect and maintain their investment in reputation capital.

**Empirical Review:**

Many eminent scholars have investigated the connection between audit quality and a firm's financial success from a variety of angles (Aliyu, Musa, and Zachariah 2015; Chen & Zhang, 2014; Nawaish, 2016; Ahmad, Suhara, and Ilyas, 2016; Tyokoso, 2017; Ola, 2018 among many others). Aliyu, et al., 2015 stated that audit quality has a substantial impact on how listed deposit money institutions in Nigeria handle their earnings. The study also discovered that joint audit services and the size of the audit company had a considerable detrimental effect on the management of earnings.

Findings from Chen and Zhang, (2014) suggest that audit quality does not limit earnings management strategies in Malaysian enterprises that manufacture industrial and consumer goods. Similar to this, Nawaish (2016) asserted that the effectiveness of external audits is positively correlated with the management of profitability in Jordanian banking enterprises listed on the Amman Stock Exchange (ASE). Findings showed substantial relationships between audit tenure, audit fees, and auditor specialization and earnings management. Another advance was the discovery of a negative and significant correlation between audit quality and earnings management by Saleem and Alzoubi (2016) and Ahmad, Suhara, and Ilyas (2016). The findings of the Ola (2018) study showed that the market value of non-financial companies listed in Nigeria is significantly positively impacted by audit quality.

**The Agency Theory**

The agency theory takes into account stewardship and the relationship between agencies and their principals to explain management's interest in audit quality. A company's management will prioritize its own interests over those of investors at the expense of the stewardship relationship (Nurul, 2015). The management will employ the shade of their light to further their interests if shareholders, creditors, independent of the board of director and auditors fail to adequately ungulate the light through controlling mechanisms (Martinez-Ferrero, 2016). The idea clarifies management's performance-related signaling motive. By generating a consistent and expanding stream of earnings over time, management was able to influence the share price and give investors insider information about their hopes for future prospects that leads to increase in financial performance.
Therefore, agency theory provides a theoretical explanation for the existence of an audit expectation gap. Based on this theory, an audit firm size can be viewed as occupying a status or position as a profession in the social system. Due to the position of a profession, auditors are required to comply with the prescriptions ascribed to them by society. Failure to conform to the ascribed role or to meet role expectations creates the risk of social action to enforce conformity and to penalize nonconformity (Davidson, 1975).

3. Research Method

In earlier research on the connection between audit quality and firm financial performance, traditional econometric techniques, such as pooled ordinary least square (OLS) regression, random and fixed effects regressions, instrumental variables and two-stage least square estimation, as well as Vector Auto Regression models, were widely used (for instance see Aliyu, Musa & Zachariah 2015; Olaniyi & Abubakar 2018; Jayeola, Taofeek & Toluwalase 2017; Miko & Sahnum 2018). This study, however, employed a Generalized Method of Moments (GMM) dynamic panel, a more advanced estimating strategy. Traditional econometric techniques like OLS do not produce unbiased estimates since the lagged dependent variable exists among the independent variables, which has increased the use of this method.

The association between the lagged dependent variables and the error term also demonstrates endogeneity, which biases the predicted coefficient of the lagged dependent variable when using OLS estimation. Given that the panel data consist of time series and cross sections, the Generalized Moment Method estimator system is appropriate to use in this situation and could resolve the problem. This study makes the assumption that a company's financial performance may be influenced by its financial performance from the previous year as well as by interactions between audit firm size and the financial expertise of the audit committee, audit firm size and the independence of the auditor, and board size. The GMM estimator is as follows:

\[ \text{NPM}_{it} = \alpha + \beta_1 \text{AFS} \times \text{ACFE}_{it} + \beta_2 \text{AFS} \times \text{AUADIN}_{it} + \beta_3 \text{BS}_{it} + \mu_t \]

Information:
- NPM = Net Profit Margin
- ACFE = Audit Committee Financial Expertise
- AFS = Audit Committee Size
- BS = Board Size
- \( \alpha \) = Intercept
- \( \beta_1 - \beta_3 \) = Parameters of Estimate
- \( \mu_t \) = \( \epsilon_{it} + \lambda_i \)
- \( \epsilon_{it} \) = stochastic error term
- \( \lambda_i \) = cross-sectional individual difference (Composite Error)

Population of the study consists of 28 companies on the stock exchange from consumer goods sector for the period of 2010-2020. In arriving at the sample, In order to maintain the validity of the findings for each company, the study excludes those firms who did not reveal more than 10 years of financial statements. Therefore, the sample size of the study consists of seventeen firms listed on Nigerian stock exchange.

4. Results

Table 1 presents the results of pairwise correlation analysis in a descriptive way to show the relationship that exists among the variables of this study, particularly the continuous variables. This is important on one hand, to show how these variables are related, and on the other hand, to ensure that these variables do not have high correlation coefficient that would cause a problem of severe multi-collinearity in the models of this study if these variables are employed together.
The results of correlation analysis presented in Table 1 shows that net profit margin has no statistically significant correlation coefficients with all variables such as interaction of audit firm size and audit committee financial expertise, interaction of audit firm size and audit independence and board size. Consequently, higher, or lower level of net profit margin are not associated with all the variables. Overall, none of the correlation coefficients of the relationships among the explanatory variables is as high as 0.8. Following the rule of thumb of detecting severe multicollinearity (see Asteriou & Hall, 2016), this signifies that employing these variables together in a regression model would not lead to the problem of severe multicollinearity.

Unit Root Test: The results of unit root test are presented here. The test was conducted to verify the time series properties of the panel data employed in this study, most especially, the nature of stationarity. The test is relevant to ensure that variables are stationary or otherwise integrated in order not to have spurious regression results in the work.

### Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>P-statistic</th>
<th>p-value</th>
<th>Z-statistic</th>
<th>Z-value</th>
<th>L*-statistic</th>
<th>p-value</th>
<th>Pm-statistic</th>
<th>p-value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPM</td>
<td>43.70</td>
<td>0.008</td>
<td>-2.127</td>
<td>0.016</td>
<td>-2.309</td>
<td>0.012</td>
<td>2.844</td>
<td>0.002</td>
<td>Stationary</td>
</tr>
<tr>
<td>AFS*ACFE</td>
<td>25.47</td>
<td>0.380</td>
<td>-2.105</td>
<td>0.017</td>
<td>-2.426</td>
<td>0.010</td>
<td>0.212</td>
<td>0.145</td>
<td>Stationary</td>
</tr>
<tr>
<td>AFS*AUDIN</td>
<td>109.3</td>
<td>0.000</td>
<td>-3.389</td>
<td>0.000</td>
<td>-7.063</td>
<td>0.000</td>
<td>12.32</td>
<td>0.000</td>
<td>Stationary</td>
</tr>
<tr>
<td>BS</td>
<td>3.096</td>
<td>1.000</td>
<td>0.424</td>
<td>0.664</td>
<td>0.385</td>
<td>0.648</td>
<td>-3.017</td>
<td>0.998</td>
<td>Not Stationary</td>
</tr>
</tbody>
</table>

Note: P-statistic is Inverse chi-squared statistic; Z-statistic is Inverse normal statistic; L*-statistic is Inverse logit t statistic; Pm-statistic is Modified inverse chi-squared statistic. NPM is net profit margin; ACFE is audit committee financial expertise; AUDIN is audit independence; and BS is board size.
The Fisher-type augmented Dickey-Fuller approach produced the unit root test results displayed in Table 2. Inverse chi-squared statistic (P), inverse normal statistic (Z), inverse logit t statistic (L*), and modified inverse chi-squared statistic are the four test statistics that are revealed by the test (Pm). The test results showed that each NPM and AFS*AUDIN are stationary according to the four test statistics. Looking at the data, it is clear that all test statistics have high statistic values and low p-values, which are sufficient to rule out the presence of unit roots, or non-stationarity, as the test's null hypothesis. However, the test found that AFS*ACFE is not stationary from the inverse chi-squared and modified inverse chi-squared statistics, only from the inverse normal and inverse logit t statistics. Given that stationarity is supported by two of these statistics, it can be said that the variable is stationary. According to all four statistics, BS is not stationary, necessitating a second test at its first difference (∆BS).

The results show that it is stationary from the inverse normal and inverse logit t statistics, but not stationary from the inverse chi-squared and modified inverse chi-squared statistics. Since two of these statistics support stationarity, then it is concluded that the variable is stationary. Given that the estimation technique employed in this study is the system GMM, the stationary and non-stationary series can be employed in a model without any consequence of having spurious result.

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFS*AUDIN</td>
<td>6.01</td>
<td>0.227767</td>
</tr>
<tr>
<td>AFS*ACFE</td>
<td>3.5</td>
<td>0.232787</td>
</tr>
<tr>
<td>BS</td>
<td>2.11</td>
<td>0.474899</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>11.56</td>
<td></td>
</tr>
</tbody>
</table>

The VIF result presented in Table 4.5 is for the return on assets model. With each of the VIF values being lower than 10, the model of this study is free from multicollinearity problem. The tolerance (1/VIF) values also suggest similar conclusion, as each of the values are well above zero. The variance inflation factor results therefore revealed that all the explanatory variables of the model do not exhibit very high correlation that can lead to multicollinearity problem. The result further buttresses the conclusion reached from the pairwise correlation analysis.

4.1 Hypotheses Testing

The result of the impact of earnings management and audit quality on net profit margin is presented here. The dependent variable is net profit margin, which is used to proxy financial performance. The independent variables include interaction of audit firm size and auditor’ independence, the interaction of audit firm size with audit committee financial expertise, board size.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Z</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPM(lag)</td>
<td>-0.15055</td>
<td>0.073722</td>
<td>-2.04</td>
<td>0.041</td>
</tr>
<tr>
<td>AFS*ACFE</td>
<td>1.660644</td>
<td>5.61515</td>
<td>0.3</td>
<td>0.022</td>
</tr>
<tr>
<td>AFS*AUDIN</td>
<td>-0.25308</td>
<td>0.7603</td>
<td>-0.33</td>
<td>0.739</td>
</tr>
<tr>
<td>BS</td>
<td>0.44195</td>
<td>0.787109</td>
<td>-0.56</td>
<td>0.004</td>
</tr>
<tr>
<td>Constant</td>
<td>12.67747</td>
<td>19.69436</td>
<td>0.64</td>
<td>0.52</td>
</tr>
<tr>
<td>Sargan test</td>
<td>8.891</td>
<td></td>
<td>0.438</td>
<td></td>
</tr>
<tr>
<td>AR test (1)</td>
<td>-1.019</td>
<td></td>
<td>0.308</td>
<td></td>
</tr>
<tr>
<td>AR test (2)</td>
<td>-1.008</td>
<td></td>
<td>0.313</td>
<td></td>
</tr>
</tbody>
</table>

Note: NPM is net profit margin; AFS*ACFE is the interaction of audit firm size and audit committee financial expertise; AFS*AUDIN is the interaction of audit firm size and audit independence; and BS is board size. AR is autocorrelation test.
Evaluating the model of this study in terms of autocorrelation (or serial correlation), the result presents the Arellano-Bond test of autocorrelation (AR), which has null hypothesis of no autocorrelation. The basic assumption of the test is that first-order autocorrelation may be permissible in the GMM result. However, second-order autocorrelation raises serious concern about the validity of the result. The result show that the first-order autocorrelation statistic value is quite high (i.e., -1.019) and the p-value is well over 0.005. This indicates that the test’s null hypothesis of no first-order autocorrelation could not be rejected, which satisfy the test’s condition and suggest that there is absence of first-order autocorrelation in the model. The result also show that the second-order autocorrelation statistic value is quite high (i.e., -1.008) and the p-value is well over 0.05. This indicates that the test null hypothesis cannot be rejected at the second-order tests which satisfy the test’s condition. Therefore, the model is free from autocorrelation problems, both at first order and second order tests.

Regarding test of the validity of the instruments employed for this model, the Sargan test of over-identifying restriction was conducted for this model. This was done to verify if the restrictions placed on the employed instruments in order not to be over-identified are valid. The null hypothesis of this test is that over-identifying restrictions are valid. Given the statistic value of this test result, which is 8.891 and its p-value being greater than 0.01, the results suggest that the null hypothesis of the test could not be rejected for the model. This implies that over-identifying restriction is valid for the model.

Examing the importance of each explanatory variables of the model, the results show that interaction of audit firm size and audit committee financial expertise, control variable board size have statistically significant effect with the coefficient (1.660644, and 0.44195) and p-value (0.022 and 0.004) respectively while interaction of audit firm size and audit independence has insignificant effect with coefficient -0.25308 and p-value 0.739 with their level of significance greater than 0.05.

4.2 Discussion of Findings

This study employed generalized moment method to have deep analysis of the effects of the audit quality on the financial performance of listed consumer goods companies in Nigeria with the introduction of audit firm size as moderating variable to the study. GMM regression result in table 4 revealed that interaction of audit firm size and audit committee financial expertise, and board size have significant effect on net profit margin of listed consumer goods companies in Nigeria. This is contrary to the studies by Llukari (2013); Okafor and Ezeagba (2018); Chaharsoughi and Rahman (2013); Holtz and Sarlo Net (2014); Anderson and Frisk (2016) but is in line with the studies by Egbonike and Odum (2018); Nasir and Ramakrishnan (2020); Subekti (2010); Asim and Ismail (2019); Abata and Migiro (2016). While interaction of audit firm size and audit committee financial expertise revealed negative and insignificant effect on net profit margin of listed consumer goods companies in Nigeria.

5. Conclusion

It has been discovered that audit firm size plays a significant role in moderating audit quality and consumer goods firm’s financial performance. Despite the fact that there is no violation of any law, it has portrayed the company’s image in an unethical manner. This study therefore concludes specifically that interaction of audit firm size and audit committee financial expertise, and board size have statistically significant effect on financial performance of consumer goods companies in Nigeria. Contrarily, interaction of audit firm size and auditor’s independent play insignificant effect on the sampled companies. The study consequently suggests that the Nigeria Accounting Standard Board (NASB) be given the authority to create an organized set of accounting laws and to look into the financial accounts of listed Nigerian petroleum marketing businesses. This is done to make sure that all financial reporting laws, such as IFRS,
GAAP, and CAMA, are strictly followed. In addition to this, ethical standard should be encouraged by the regulatory agencies if not mandated. More also, ACFE membership of listed consumer goods companies should contain not less than 70% member with accounting and finance background and knowledge, and this should be strictly enforced by the sampled firms in Nigeria. This is in view of the fact that audit committee financial expertise will improves the effectiveness of firms’ specialist auditors in mitigating fraud of firms through their interaction.

The data used in this study rely on information published by firms through their website and Nigerian Exchange Group and therefore, the robustness of the study's results was limited to the accuracy of the data provided. The policy implication of this study is that the study will improve the understanding of audit firm size and audit quality concept in practice at all levels of organization especially in the consumer goods companies’ environment where auditors and regulators when assessing the appropriateness of accounting policy choices, interest of stakeholders is highly considered.

References


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