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# Corporate Governance Characteristics and Audit Quality of Listed Insurance Firms in Nigeria

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**Abstract**

*Lack of comprehensive implementation of corporate governance codes in public corporate entities has been identified as part of the causes of many corporate failure. This study therefore investigated probable relationship amid corporate governance features, and audit-quality of listed insurance entities in Nigeria. Twenty-five (25) listed insurance firms were drawn from population of twenty-eight (28) companies based on certain selection criteria. Data were drawn from annual report of the firms sampled, and regression analysis was carried out using generalized least squares. Results display that board-size, and board-independence have positive relationship with audit-quality, which is statistically significant at 0.01 level, but antithetic and statistically significant bond exist amid managerial-ownership and audit-quality. The implication is that any rise in board size and independence will inform consequential rise in audit-quality, but managerial influence emanating from ownership can lead to decrease in crave for high quality-audit, and perhaps, engendering low audit-fee. It is concluded that corporate governance elements such as board-size and independence, and managerial stock-ownership are determinants of audit-quality of listed insurance firms in Nigeria. The recommendation is that Nigerian listed insurance entities should stem up adherence to corporate governance demands since its contribution brings best practices capable of boosting stakeholders' confidence, and improved capital inflow to the industry, while shareholders should consider other audit quality enhancing managerial compensation pay package.*

***Keywords:*** *Audit fees, audit quality, board, corporate governance, managerial stock ownership*

## 1. Introduction

Extant study has advocated strongly that the core aim of an audit obligation is to produce reliable audit quality (Enofe, *et al.*, 2013). This implies that an auditor's most important role is to issue a quality audit-report, achieved through stringent adherence to high-quality audit codes. Audit-quality represents ability of an auditor to report and judge independently without being manipulated or biased in his/her way of reporting. Whereas, judgement of an auditor on

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independent appraisal of financial statements could be influenced by myriad of heterogeneous factors of which corporate governance characteristics is not the least.

Corporate characteristics are parameters that are unique to a particular industry or individual enterprises which affect the firms' economic decision both internally and externally. The internal variables are mostly under direct management control, which can either positively or negatively affect a firm's audit quality (Bhasin, 2013), while the external variables are not within the management control such as regulatory directives, political interference and natural phenomena. Corporate governance can be viewed as a set of established policies, rules, and practices that stipulate how a corporate entity should be managed. Although, there are diverse forms of governance codes, basically, corporate governance focuses on leadership (board and shareholders), other stakeholders, accountability and transparency, risk management, ethic and integrity etc. Features such as board size, board independence, managerial stock-ownership among others, are also among corporate governance characteristics (Abdu & Jibir, 2017).

Good corporate-governance has been acknowledged as corporate attribute capable of affecting the standard of financial-reports, which could consequently impact stakeholders' confidence significantly (Levitt, 2000). Studies have it that characteristics of worthy governance minimize abuse of power, imprudent management of resources leading to financial misappropriation, and failure to follow up on internal control (Suryanto, Thalassinos, & Thalassinos, 2017; Sharinah, Mohd, & Azlina, 2014). Thus, the crux of corporate-governance attributes is to safeguard interest of shareholders and other stakeholders from which it perceives its inward control authority (Fama, & Jensen, 1983).

According to Michael, *et al.* (2016), lack of a good and reliable attribute of corporate governance has been the main driving force for the collapse of several business entities around the world. Furthermore, lack of comprehensive implementation of corporate-governance codes in corporate personalities was responsible for breakdown of various business organizations (Ejeagbasi, Gloria, Nweze, Ezeh & Nze, 2015). Despite adoption of corporate-governance codes for Nigerian banks in 2007, cases of corporate failure are still being recorded in some entities, such as, erstwhile Oceanic Bank (Nig.) Plc and Intercontinental Bank (Nig.) PLC. This suggests that quality of an audit-exercise could have been compromised through corporate governance failure in the entities.

As corollary to the above and based on empirical submissions, Elamer, *et al.* (2018) found out that number of times board meets, independence of board members, size of audit-committee, and board-size present adverse link with FSTE 350 insurance firms' risk-taking. Other studies such as Datta (2018), Pavić Kramaric, Aleksić and Pejic-Bach (2018) investigated the link amid corporate-governance attributes and firm-performance of insurance firms with mixed findings, while Abubakar, Sulaiman and Haruna (2018) noted from the Nigerian insurance firms that corporate attributes have negative impact on the firms' financial performance. Also, Olabisi, *et al.* (2020) revealed that audit-fees, audit firm-size and tenure are drivers of audit-quality in the Nigerian insurance industry. This presupposes that corporate governance measures could affect insurance firms' business decision and operations of which audit quality proxy using audit fees is not an exception. Whereas, audit services are expected to reduce agency-costs.

According to the Nigerian National insurance commission (NAICOM), bad governance construct is a key responsible factor accounting for distress of some insurance corporations in Nigeria (Orimisan, 2021). More importantly, insurance business in Nigeria is flawed with lack of consumer trust, mismanagement and inadequate skilled professional, ethical issues among others (Akinbola & Ejide, 2010). Several entities in the sector were fined around N1billion Naira for various forms of infractions between 2020 and 2021 (Ogwu, 2021). Additionally, firms in the industry have been at loggerhead with its regulator involving court cases on policies introduced to correct abnormalities in the sector (Popoola, 2018). This suggests that audit of such firms should be conducted to strengthen consumers' confidence about the industry. As a growing industry ranked 79$^{th}$ in the world in 2019, although with low level of penetration, the industry still remain fragmented with decline in number of registered firms over the years. The companies are also very susceptible to the nation's economic condition. Thus, in order to make the industry more attractive to potential investors, enhance its contribution to the nation's GDP and make its growth sustainable, there is need to study the connection subsisting between corporate-governance proxies and audit-quality of listed insurance firms in Nigeria.

Additionally, previous studies have focused on the banking sector, raising a research question as to whether insurance industry has resistant to manipulations of its activities, as part of financial sector, or not. Studies were carried out by various scholars such as; Yadirichukwu, and Ebimobowie, (2013), Sharinah, Mohd, and Azlina, (2014), Daoud, Ismail, and Lode, (2014), Zábojníková (2016), Olowookere, & Inneh (2016), Fadaly (2018), Seyedeh, Elham, Abrandabadi, & Panahandeh, (2016), Firth, Rui, & Wu, (2012) on the issue of low audit quality. Some of these studies focused on developed countries (Awadallah, 2020) and reported mixed findings. For example, Firth, *et al*, (2012) observed an antithetic association between board-size, and audit-quality in China. Such firm attribute tends to drive efficiency of experienced audit work. On the contrary, Awadallah (2020) noted that firm size, leverage and business complexity affect audit-quality.

Companies around the world have different legal histories, ethics and culture, making it unacceptable to localize studies done in other world economies. Several studies were conducted on audit-quality in Nigeria, but studies on corporate-governance attributes and audit-quality of insurance firms listed in Nigeria are relatively scarce. In tandem with the position of Mustapha, Rashid, Lateef, and Bala (2019) that good nexus between audit-quality, and corporate-governance characteristics serves as monitoring mechanism capable of enhancing reliability of financial-information, this study found it imperative to investigate the association between corporate-governance characteristics, and audit-quality of listed insurance firms in Nigeria. The essence is to ensure policy direction that is of immense benefit to management of listed insurance companies, as well as the concerned regulatory bodies on how to enhance quality of audit-report issued in the sector so as to strengthen stakeholders' confidence and improve investment in the industry. Review of relevant literature is presented in section two followed by data and methods, results and discussion of findings while conclusion and recommendations are contained in section five of the study.

## 2. Literature Review

Firm attributes are those factors that have an interior and external effects on the firm's decision. The characteristics of a firm can be determined based on the relevant information reported for a given accounting period on its financial statements (Stainer, 2016). Dean, Bulent, and Christopher (2000) argued that firm attributes are important determinants of both the firm performance and audit-quality of a business. The internal variables are mostly under direct management control and demonstrate positive or antithetic impact on the company's audit-quality, including company size, board size, leverage, productivity and management ownership (Sumaira & Amjad, 2013).

Malik (2011) categorized the parameters of internal attributes into two essential sub-categories, namely the financial variables and non-financial variables. Malik (2011) further interpreted financial variables as determining factors that are specifically determined from elements presented in a financial position statement and income statement. These include firm size, leverage, liquidity, growth, loss ratio and, among others, profitability. In the literature different measures of firms attributes were considered. Some of those measures, however, are conceptualized as follows.

*Corporate Governance*

In 2018, the Nigerian corporate governance code was released to safeguard efficiency and good corporate-governance practices in Nigeria's private- and public-sector. Some of the requirements of the code include; board-size, managerial stock-ownership and board-independence. Board size should be sufficient to efficiently pursue, and accomplish business objectives; monitors, organize and regulate firm's affairs, managerial stock quality and board independence. Also, independent directors on board is largely determined by the organization's level of maturity, its characteristics and its period. The code suggests that higher fraction of the directors should be professional, hired through a well-structured process and qualifications, and with a well-defined job scope. Independent directors might be extremely helpful in a situation where all the appropriate and relevant information is provided to the organization with which they operate (Reiter & Rosenberg, 2003).

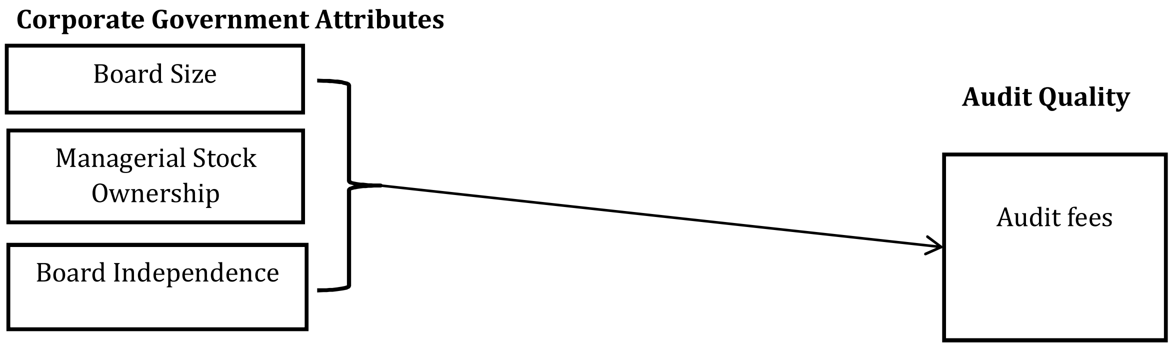
Corporate Governance is a central component in raising the trust of investors, cultivating the sense of rivalry and eventually enhancing economic-growth. This dimension ranks first on the list of international development. In this regard, former World Bank president James Wolfensohn once said that corporate governance is more imperative for the development of the global economy than the sovereignty of the nations (Anderson, 2003). Good Corporate Governance practices are germane for the attainment and preservation of public confidence in insurance sector, which is vital to apposite running of insurance sector, and a country's economy in general. Bad corporate governance can contribute to insurance business's failure of which its effect may lead to total collapse of the business, rise in unemployment and negative economic impact (Dezoort, *et al.*, 2002).

Corporate governance organisation defines the allocation of responsibilities and rights to various corporate stakeholders such as executives, workers, shareholders and other entities and individuals that can be affected by actions of a corporate entity. The system that describes rules and regulations for decision making processes including; setting goals, deciding means for achieving goals, and designing control-systems is closely linked to methods used by shareholders to ascertain their returns on capital (Piot, & Vahamaa, 2012). Succinctly, review of extant literature shows no accepted concept of corporate-governance. Organization for economic co-operation and development (OECD) codes cover 6 main corporate governance principles including ensuring the establishment of the necessary conditions for an effective corporate-governance system, shareholders' rights, and stakeholders' position in corporate governance, disclosure, accountability, and board of directors' responsibilities. A key fundamental aspects of corporate-governance underlined in these principles is transparency of information. Transparent information emanating from reduced asymmetry of information can result to assumed fair disclosure. The likes of the corporate-governance attributes are board-size, and independence; board gender-diversity; board tenure, and managerial stock-ownership.

*Conceptual Framework*

Corporate scandal, like the one found in African Petroleum; Cadbury; Enron; Intercontinental Bank (Nigeria); Lever Brothers; Savanna Bank; Wema; and WorldCom due to lack of very high audit-quality, has become a significant policy issue. Seemingly, failures of insurance companies in Nigeria according to Orimisan, (2021) have posed some basic questions regarding the level of audit quality exercise. For example, in 2012 and 2018, about two and four insurance companies respectively failed to meet deadlines for the submission of their annual reports submission (Eshiet, 2012; Popoola, 2018). At the same time, audit quality depends on several firm attributes such as corporate governance attributes, risk attributes, and performance attributes.

In the conceptual framework presented in figure 1, independent variables are corporate governance attributes proxies by board size, managerial stock-ownership, and board independence. Dependent variable is audit-quality, measured sing audit fee.




**Source:** Authors' compilation (2021)

**Figure 1:** Conceptual framework showing interaction between firms' features and audit-quality of listed insurance companies in Nigeria.

**Review of Theories**

*Agency-theory*

Jensen, and Mecklin (1976) introduced agency-theory. In order to solve the preposition of agency theory, issues relating to dis-integration of ownership, and control of large corporations were pointed out. The central dimension of the theory of agencies is the clash of stake between agents and their principal(s). The principal (shareholder) transfers the decision maker's powers to an agent (manager who conducts his duties on behalf of the principal) (Jensen & Mecklin, 1976). From the viewpoint of the theory, ownership structure has been described as one of the mechanisms that can reduce the cost of the organization and add to the enhancement of audit-quality. The theory suggests that the structure of ownership, distinguished by the division of roles between inside and outside directors, ensures maximum control that facilitates equity, objectivity, openness and board level accountability. Thus, agency-theory is found quite appropriate to this study so as to provide theoretical basis to explicate the link amid corporate-governance characteristics of board size and independence, and audit-quality in Nigerian insurance firms.

*Signaling Theory*

Signaling theory was put forward by Spence (1973) where he modelled education as premise for individual worker's innate productivity (Page, 2010) in line with human capital theory. Wallace (1980) suggests that signaling is something of an implied promise. Signaling-theory is a theoretical body of work that explores communication among individuals, both within and across organizations (Ahmed, 2012). Signaling-theory is found useful when two distinct parties (i.e. individuals or organizations) obtain, or have access to diverse information in order to explicate their actions. A party (i.e. the sender), usually has to choose how, and who to converse (or signal) an information with, and the other party, (the receiver), has to choose the way to perceive message. The central question is, when should it be presumed that species with differing interests, such as in ownership structure, provide honest signals (no assumption of conscious intent), rather than cheat?

Many researchers have used signaling-theory to describe how organizations use varied boards to convey observance to social-values to a diversity of stakeholders in the company (Miller, & Triana, 2009; Alade, 2018). Thus, the users of the financial statements is unable to differentiate between truthful and false details by the nature of audit exercise. In this case, the desire for unbiased audits work and report is always the craving of most stakeholders. The financial-statement is prepared by the management, audited by the auditor, it is believed by the intended recipient of the financial-statement figure that it is free of errors and mistakes and can also be trusted to make economic decisions. The signaling theory hypothesis therefore is in consonance with the positive association of audit-quality and financial reporting ownership structure. Therefore, the study depended on the theory to link board attributes, and managerial stock ownership with audit-quality of the insurance firms as channel of signaling the companies' true position to them.

The key proposition here, in null form therefore, is that corporate governance characteristics do not present statistically significant association with audit-quality of listed insurance firms in Nigeria. This is with a position that management of the listed firms will be able to arrive at a well-informed managerial policies which can avail the company competitive edge in the sector; and that board will also ensure effective monitoring and control mechanisms to protect shareholders' wealth.

**Empirical Review**

Ntim, and Osei (2011) conducted a study in the South-Africa on influence of corporate board-meetings on corporate-performance using sample of one-hundred and sixty-nine listed organisations from 2002 till 2007. The study found positive, and statistically significant association between corporate-performance, and rate of board meetings. The result lend empirical complement to agency-theory, implying that board that meets often possess capacity to effectively advise, discipline, and monitor management, thereby improves corporate financial-performance. Also, Koji, Adhikary, and Tram (2020) carried out a study on corporate-governance and firm-performance of family, and non-family Japanese manufacturing firms. Data were collected through secondary source, and the results showed that family-owned entities outstrip non-family-owned counterparts in terms of Tobin's Q and return-on-assets (ROA), when univariate analysis is conducted.

Bassey (2018) conducted a study on CG implementation in the Nigerian banking sector. The study was conducted in Walden, and data were drawn through interview on 15 selected senior managers and bank directors. Data were analysed using Yin's 5-Stage data-analysis approach. It was discovered that participation of Senior Bank-Managers; global best practices; training; education; and awareness; creation are requisites for implementation of corporate-governance. Eluyela *et al*, (2020) studied Grey directors, corporate-governance, and firm's performance in Nigeria between 2012 and 2017. Attention was directed at fourteen listed deposit-money-banks in Nigerian stock-exchange. Unit-root-test and panel co-integration test were used to perform the analysis. Finding unveiled positive, and significant link between indigenous-directors, board size, non-executive directors, and performance of the selected banks.

Mustapha, *et al.* (2019) made attempt to study the nexus between corporate-governance characteristics, and audit-quality of listed firms, in Nigeria by focusing on non-financial sectors for a period from 2012 to 2017. The study found antithetic relationship exists between both board-independent, and audit-committee gender, and audit-quality, while audit-committee meeting showed positive relationship, but statistically not significant for board independence. Although the study was carried out in Nigeria, it excluded financial sector, suggesting opportunity for further study in this aspect. Findings of Mustapha, et al. (2019) is at variance with the take of Olabisi, *et al.* (2020) who reported significant association amid audit firm-size, audit fee, audit tenure cash-flows, and audit-quality, but no significant association was found between joint-audit, auditor's independence, and audit-quality among listed insurance firms in Nigeria. It is very obvious that parameters examined by Olabisi, *et al.* (2020) are more of auditors' attributes. Based on Romanian's listed firms, Gajevszky (2015) found out that CEO-duality; board-independence; managerial ownership; and institutional ownership are adversely related to audit-quality, but statistically significant for CEO-duality, and institutional ownership.

Drawing from the empirical review, extant studies rarely focused on Nigeria listed insurance firms and by including corporate managerial stock ownership (MSO) in a model as one of the explanatory variables affecting the audit-quality. This variable (MSO) is a new variable included in a model employed in previous studies conducted by Carey and Simnett, (2006), Gajevszky (2015) and Adebayo and Adebiyi (2016), while investigating audit quality determinants in developing countries. Previous studies have clamoured for studies that explore audit-quality using audit-fees, capable of improving overall quality of audit task (Nelson & Tan, 2005; Francis, 2011; Knechel, *et al.,* 2013). These formed the identified lacuna that the present study made attempt to fill in literature.

### 3. Data and Methods

The investigation relied on *ex-post facto* research paradigm since it helps to explain the connection between explanatory and outcome parameters which are products of after event data. Population encompassed 28 insurance firms, listed on Nigerian stock exchange (NSE) as at 31st December, 2018. Twenty-five (25) firms were purposively selected as samples based on criteria that include; firm not delisted during the period under focus; data availability in annual financial-reports of the firms all through the time of 2009-2018; and the firm must be listed a year before 2009. Secondary source of data collection was employed to achieve the objective. Choice of 2009 as base year was because the Nigeria economy started recovering from 2007 global financial crisis, while the choice of 2018 as terminal year was due to data availability as at the period of gathering data. The use of secondary data was adjudged to be a better source in that data collected through such source is free from bias as seen in most primary data. The data were extracted from annual-reports of the listed insurance firms. Model was adapted from Mustapha, *et al.* (2019) who studied effect of corporate-governance attributes on audit-quality from the same reporting economy using board-independence, audit-committee meetings and gender as corporate governance surrogates and audit-fee as proxy for audit-quality. However, there was a modification of the model so as to capture the link between managerial stock ownership and audit-quality. Econometrically, the prediction model is as specified in general form as;

$AQ_{it} = f(CGA_{it})$ ……………………………………………………………… *equn (i)*

By examining effect of CG elements on audit-quality of listed insurance organizations in Nigeria, the model is specified in line with corporate-governance code (CGC) guidelines where a checklist of three (3) themes was developed. They are Board Size (BS) Managerial Stock Ownership (MSO) and Board Independence (BI).

$AQ_{it} = f\,(BS_{it}, MSO_{it}, BI_{it})$ ………………………………………………………*equn(ii)*

$AQ_{it} = a + \beta_1 BS_{it} + \beta_2 MSO_{it} + \beta_3 BI_{it} + e_{it}$……………………………………..*equn(iii)*

Where;
AQ = Audit-quality
$CGA_{it}$ = Corporate-governance attributes of firm *i* at time *t*
BS = Board size
MSO = Managerial stock ownership
BI = Board independence

Descriptive analysis was done to showcase evocative picture of the data employed. Regression analysis was performed using generalized least squares due to failure of the dataset to meet basic ordinary least square assumptions. The *a-priori* prospect based on literature reviewed, and applicable theories is that corporate governance attributes will have positive and significant relationship with audit-quality. Table 1 presents measurement of the parameters employed.

**Table 1: Measurement of Parameters**

| S/N | Variable | Description | Measurements | Sources |
|---|---|---|---|---|
| 1 | Audit-Quality | Accuracy of information provided to the investors and other stakeholders after audit exercise | Audit fees paid to the audit firm(s) | Olabisi, *et al.* (2020); Mustapha, *et al.* (2019) |
| 2 | Board Size | It represents total numbers of member of board of directors in a firm. | Total number of the directors | Eluyela, *et al*, (2020), Adebayo & Adebiyi (2016) |
| 3 | Managerial stock-ownership | Managerial stock-ownership is the percentage of stock owned by management of the firms. | Percentage of shares owned by management from total outstanding shares. | Adebayo & Adebiyi (2016) |
| 4 | Board Independence | Number of autonomous non-executive directors sitting on the RMC | Number of non-executive directors/total number of directors | Olabisi, *et al.* (2020); Mustapha, *et al.* (2019) |

**Source:** Authors' Compilation (2021)

## 4. Results and discussion of findings

*4.1 Descriptive analysis*

Table 2, presents descriptive statistics of the parameters examined in the study. The average audit-fee paid by the insurance firms is ₦1.79 million, while the standard deviation for audit fee showed ₦1.4 million, signifying low variation across the listed insurance firms in Nigeria. The maximum and minimum audit fee paid are ₦7.9 million and ₦1.5 million, respectively. For the corporate governance attributes, the average member on the board is approximately 9 with the standard-deviation of 1.843, indicating low variability all through the listed insurance firms in Nigeria. The minimum, cum maximum board members are 4 and 14 members respectively. Average board independence is 7.4%, with standard deviation of 7.8% indicating high variation in terms of level of non-executives to executives employed across listed insurance firms in Nigeria.

Furthermore, as presented in Table 2, the mean value of managerial ownership is 5.1% while the standard deviation of 8.7% shows high variability across the listed insurance firms in Nigeria. Minimum, and maximum rates of shares own by managers reveal 0% and 27% approximately, which aligns with the prudential guideline giving by the Central bank of Nigeria (CBN) that manager's shares should not exceed 30% of the overall bank's shares. The minimum of 0% share could be as a result of the fact that some of the shares owned by board members are immaterially low for a particular year, and therefore, may not need to be disclosed for the financial-year.

**Table 2: Descriptive statistics of the variables**

| Variable | Obs | Mean | Std. Dev. | Min. | Max. | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| Board Size | 214 | 8.972 | 1.843 | 4 | 14 | .019 | 3.045 |
| Board Ind. | 214 | 0.074 | 0.078 | 0 | 0.429 | 0.857 | 3.924 |
| Managerial SO. | 215 | 0.051 | 0.087 | 0 | 27 | 1.808 | 5.796 |
| AQ | 216 | 1.793 | 1.406 | 1.50 | 7.90 | 1.712 | 6.138 |

**Source:** Authors' Computation (2021)

The correlation matrix is presented in Table 3. In overall, the highest co-efficient of relationship among the independent variables is approximately 0.353, which is below 0.8 between the pairs of the independent variables. Thus, suggesting that these three distinct variables are well-fitted into one regression model. The correlation matrix shows that corporate-governance attributes (CGA) as proxied by board size; board independence; and managerial ownership, have weak relationship with audit-quality as indicated by coefficient of 0.142; 0.353; and -0.314 correspondingly. This also implies that board-size, and board independence present positive association with audit-quality. That is board-size, board-independence, and audit quality move in the same direction. Conversely, managerial ownership has inverse relationship with audit-quality. In other words, increase in corporate-governance attributes will positively influence audit-quality, but not for managerial ownership.

**Table 3: Correlation Matrix**

| Corporate governance attributes and Audit Quality | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| AQ | 1.000 | | | |
| BSIZE | 0.142 | 1.000 | | |
| BIND | 0.353 | -0.151 | 1.000 | |
| MSO | -0.314 | -0.075 | -0.075 | 1.000 |

**Source*:*** Authors' Computation (2021)

*4.2 Test of Assumptions*

*Test for Multicollinearity*

Non-existence of multicollinearity is a crucial postulation of linear regression analysis. In this study, multicollinearity was examined by using tolerance cum Variance inflation factor (VIF) values. The result is showed in Table 4. VIF values for the variables are generally less than '10' and the tolerance values are greater than '0.10' (rule of thumb), hence, the measures show no presence of multicollinearity.

**Table 4: Tolerance, and VIF values**

| Corporate Governance Attributes | VIF | 1/VIF |
|---|---|---|
| BSIZE | 1.024 | 0.976 |
| BIND | 1.055 | 0.948 |
| MSO | 1.038 | 0.963 |
| Mean VIF | 1.039 | |

**Source:** Authors' Computation (2021)

*Heteroscedasticity and Auto-Correlation*

In this study, Auto-correlation was tested as well as heteroscedasticity, using Modified group wise test. Based on result presented in Table 5, it can be drawn that there is problem of auto-correlation in the model as its p-values are significant at 1%. The study also revealed that there is problem of heteroscedasticity. This is because the result of the Modified group wise for heteroscedasticity test conducted for the model showed chi-square value of 40853.94 with p-value of 0.0000.

**Table 5: Heteroscedasticity test**

| heteroscedasticity test | CGA (Model) |
|---|---|
| Chi-Square | 40853.94 |
| P-Value | 0.0000 |
| Auto-Correlation | |
| F(1,22) | 67.7712 |
| P-Value | 0.0000 |

**Source:** Authors' Computation (2021)

*Shapiro-Wilk W test for normal data*

Normality of the dataset is another utmost assumption of regression, considered as a pre-condition for parametric test. This is because, one of the parametric test condition is that, the data must be normally distributed for the test to be generalized. However, normality should be examined on the residuals, rather than the data's distribution (Ghasemi & Zahediasl, 2012). Thus, this study conducted a normality test on the residuals of the model using Shapiro-wilk, and the result is as shown in Table-6. Since the probability value is above 0.05, it is established that the error-terms are distributed normally.

**Table 6: Normality Test**

| Variables | OBS | W | V | Z | Prob>z |
|---|---|---|---|---|---|
| **CGA –** residual | 213 | 0.999 | 0.207 | -3.6310 | 0.999 |

**Source:** Authors' computation, (2021)

*4.3 Regression analysis*

First, a pooled regression was performed, followed by fixed-effect regression before conducting random-effect regression. Subsequently, Hausman-test was conducted. Table 7 shows that Hausman-specification test carried out produced p-value of 0.0786, which is proved statistically insignificant. This implies that variation across the entities is anticipated to be random and correlated with explanatory parameters included in the model. As a result, result of the random effect model was considered suitable for analysis for the model.

**Table 7: Ordinary Least Square regression and Effects tests results**

| CGA | FE | | RE | | OLS | | Hausma |
|---|---|---|---|---|---|---|---|
| | **coef** | **p-value** | **Coef** | **P-value** | **Coef** | **P-value** | **-** |
| BSIZE | -0.066** | 0.048 | -0.031 | 0.389 | 0.066*** | 0.005 | - |
| BIND | 3.403*** | 0.000 | 3.351*** | 0.009 | 3.0177*** | 0.000 | - |
| MSO | -4.031*** | 0.000 | -4.352*** | 0.000 | -5.492*** | 0.000 | - |
| Constant | 9.925*** | 0.000 | 9.755*** | 0.000 | 8.971*** | 0.000 | - |
| $R^2$ | 0.4239 | | 0.2631 | | 0.3323 | | |
| Adj-$R^2$ | - | | - | | 0.3227 | | 6.80 |
| Chi-Sq | 46.12 | | 139..69 | | 34.67 | | |
| P-value | 0.000 | | 0.0000 | | 0.000 | | 0.0786 |

**** indicates significance at 1%, ** indicates significance at 5%*

**Source:** Authors' Computation (2021)

Furthermore, the result of auto-correlation test earlier conducted displays that there is no constant variance among the independent measures in the model. It also indicates that the error across the entities is not homoscedastic. Hence, the regression results were subjected to a robust test, where Feasible generalized least-square (FGLS) regression for the model was run in order to address the auto-correlation and heteroscedasticity problem identified, and in order for the results to be suitable for analysis purpose.

Result of the generalized least-square regression presented in Table 8 shows that board-size has coefficient of 0.066. This implies that, board-size has positive link with audit-quality as indicated by 0.004 p-value. It means that any upsurge in board-size will lead to significant increase in audit-quality. This is might possibly be because in selection of external-auditors, board of directors usually collaborates with the management, subject to ratification of the shareholders. In return, the external-auditor would be expected to interact with the board (as its client) through audit-committee to review the overall planned audit scope, and proposed audit-fee. Invariably, the board influences audit-quality through involvement in cautious oversight that may impress on management, and the auditor that expectations placed on the audit-firm are very high.

In addition, as shown the Table 8, coefficient of board-independence is 3.017. That is, the association between board-independence, and audit-quality is positive and significant at 1% level (as indicated by p-value of 0.000). It signifies that increase in board independence will result to improvement in audit-quality. This is because effectiveness of board is associated with board independence such that, an independent board leads to improved monitoring, and reduced managerial opportunism, by hiring competent external auditors to ensure better financial reporting quality.

Finally, the result further shows presence of adverse and significant relationship amid managerial ownership, and audit-quality as shown by coefficient of -5.492 with the probability value of 0.000. By implication, an upward push in managerial stock-ownership will lead to decrease in audit-quality. This is because managerial ownership is considered as one of the causes of agency-problems that can aggravate audit-risk. Managerial influence by the ownership could result to decline in demand for high-quality audits, thereby leading to low audit-fees. More so, the demand for high-quality audit could be weakened if managers with extensive ownership concentrate primarily on their private (personal) interests by utilizing the entity's internal information.

**Table 8: Feasible Generalized Least Squares**

| Corporate Governance Attributes | FGLS | |
|---|---|---|
| | **Co-efficient** | **P-Value** |
| Board size | 0.066*** | 0.004 |
| Board Independence | 3.017*** | 0.000 |
| Management Ownership Structure | -5.492*** | 0.000 |
| Constant | 8.971*** | 0.000 |
| Chi | 105.99 | |
| P-Value | 0.000 | |

**** indicates significant at 1%.*

**Source:** Authors' Computation (2021)

*4.4 Test of hypothesis*

The regression results for the model provide basis for rejecting the null hypothesis that corporate governance attributes such as, board size, board independence, and managerial ownership structure, present no statistically-significant relationship with audit-quality. The findings align with the study of Akhidime (2015) that found out that independent directors and directors' share-ownership positively impact on the banks' audit-quality. Also, this submission is in tandem with the findings of Sharinah, Mohd and Azlina, (2014) that found negative, but statistically significant association amid managerial stock-ownership, and audit-quality in Malaysia. The result also supports the study of Suryanto, Thalassinos and Thalassinos (2017) which found that board characteristics affect audit-quality of non-financial firms listed in the Indonesian stock exchange. On the contrary, findings based on this study negate the result of Mustapha, et al. (2019) from Nigeria, and that of Aladdin, Zeena and Islam (2018) which submitted that director ownership, and board-independence have no effect on the quality choice of auditors. Likewise, findings based on Bakare (2019) noted that board independence is inversely negatively related to audit-quality.

## 5. Conclusion and recommendations

This present study was conducted to investigate association between corporate-governance features, and audit-quality of listed insurance firms in Nigeria. It specifically examined how board size, board-independence, and managerial stock-ownership relate with audit-quality proxied with audit-fees. The three explanatory variables examined demonstrate statistical significant relationship with audit-quality, but the relationship is positive for board-size, and board-independence. Implication is that, any rise in these corporate-governance attributes will have significant improvement on audit-quality of listed insurance corporations in Nigeria, while a decline will lead to reduction in the firms' audit quality. Although, this would be expected to come together with its associated cost implication, stakeholders' confidence would have been enhanced, thereby leading to improved local and foreign direct investment in the sector.

Undoubtedly, this will also lead to probable rise in future tax revenue generation by the government from the sector. Also, as more managerial incentives are being doled out to the management through share ownership among others, this will continue to provide basis for management to exert influence on (external) audit functions, thereby eroding the quality of audit-assignments in the Nigerian insurance sector.

It is therefore concluded that corporate governance attributes are determinants of audit-quality of listed insurance entities in Nigeria. In the light of this, the study therefore recommended that insurance firms should maintain corporate governance attributes for its contribution brings best practices and ideas enhance internal control and transparent audit quality process. Furthermore, since managerial ownership impound antithetic association with audit-quality, perhaps, due to managerial influence on the auditors which could be informed by the management's stake in the firms, shareholders should consider other audit quality enhancing managerial compensation plans capable of reducing management ownership such as holiday tour, and other non-stock ownership compensation packages.

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