CORPORATE GOVERNANCE AND FRAUD MANAGEMENT OF QUOTED COMMERCIAL BANKS IN NIGERIA

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Abstract: This study assessed the relationship between Corporate Governance and Fraud Management Of quoted Commercial Banks In Nigeria from 2008-2020. Specifically, this study ascertained the relationship between Ownership Concentration, Board Size and Audit Committee Size and Artificial Intelligence Biometrics. Panel data were used in this study, which were obtained from the annual reports and accounts of thirteen (13) sampled commercial banks for the periods 2008-2020. Ex-Post Facto research design was employed. Inferential statistics using Pearson correlation coefficient and Binary Logit regression analysis were applied to test the hypotheses of the study. The results revealed that there is a significant but negative relationship between Ownership Concentration, Board Size and Artificial Intelligence Biometrics, while a significant and positive relationship exists between Audit Committee Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria at 5% level of significance respectively. The study recommended amongst others that there is need for further awareness about the manner in which the Artificial Intelligence Biometrics work and the need for further clarity on the role of each stakeholder in fraud prevention.

Keywords: Ownership Concentration, Board Size. Audit Committee Size, Artificial Intelligence Biometrics

Background to the Study

Global corporate scandals that took its toll with the collapse of once prestigious companies such as Enron and WorldCom reiterated the need for an investigation into the quality of financial reports and increased the clamouring for a better governance mechanism worldwide. It has been observed by accountants and financial economists that central to these corporate failures are that there are systematic deficiencies in accounting standards and governance systems that generate financial information. In a bid to prevent such future failure of companies, most nations across the globe introduced new codes of best governance practices to align managers interest with the wealth maximization objective of the shareholders (Amahalu, Abiahu, Obi & Nweze, 2018). An effective governance mechanism should therefore be capable of converging managers’ decisions (both operating and investment) with that of the shareholders. But, despite the introduction of the codes of best governance practices in Nigeria in 2003 and its continuous modifications, the results that it has achieved can be said to be minimal as there are fresh cases of governance malpractices that threaten the survival of quite a number of firms in different sectors of the economy.

In Nigeria, in spite of the banking regulation and bank examination by the Central Bank of Nigeria (CBN), the supervisory role of the Nigeria Deposit Insurance Corporation (NDIC), and The Chartered Institute of Bankers of Nigeria (CIBN), there is still a growing concern about fraud and other unethical practices in the banking industry. Evidence from the NDIC Report (2019) revealed that the report of the examinations and special investigations from the banks were still bedeviled with problems of fraud, weak board and management oversight, inaccurate financial reporting, poor book-keeping practices, non-performing insider-related credits, declining asset quality and attendant large provisioning requirements, inadequate debt recovery, non-compliance with banking laws, rules and regulations, and significant exposure to the capital market through share and margin loans. This is a problem which makes the activities of the fraud management difficult and affects the profitability of the banking system and the economy at large (Amahalu, Okoye & Obi, 2019).

Several divergent literatures have been conducted between corporate governance and financial performance with different strands of literatures holding different views ranging from positive to negative and non-significant relationships. For instance, the first strand of literature (Achimugu, Ocheni, Abuh, Adediran and Abdulahi, 2021;
Amahalu & Ezechukwu, 2020) found a positive relationship between corporate governance and performance. The second strand of literature documented a negative relationship (Kafidipe, Uwalomwa, Dahunsi, Okeme and Ntim, 2021; Waked and Aljaaidi, 2021). On the other hand, a non-significant relationship was reported between corporate governance and performance (Binti, Gaguk and Zuhroh, 2021). The mixed findings, inconclusive results and lack consensus by the reviewed literatures gave rise to a gap in literature which this study tends to fill.

Objectives of the Study

The main objective of this study is to ascertain the relationship between Corporate Governance and Fraud Management of quoted Commercial Banks in Nigeria.

The specific objectives are to:

i. Determine the extent of relationship between Ownership Concentration and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria.

ii. Ascertain the degree of relationship between Board Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria.

iii. Assess the magnitude of relationship between Audit Committee Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria.

Research Hypotheses

The following null hypotheses were tested:

Ho1: There is no significant relationship between Ownership Concentration and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria.

Ho2: There is no significant relationship between board size and Artificial intelligence biometrics of quoted Commercial Banks in Nigeria.

Ho3: There is no significant relationship between Audit Committee Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria.

Conceptual Review

Corporate Governance

The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation such as, the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs (Okudo & Ndubuisi, 2021). Shareholders invest in corporate governance system as a way of getting the directors to pursue their interest (maximizing returns) in a fair manner. Such investments are evident in the structure of the board (that is, its size and independence), versatility of the board (that is, directors’ qualification and experience) and audit quality. Corporate governance is a system that aims to instill policies and rules that helps maintain the cohesiveness of an organization (Nwafor & Amahalu, 2021). It exists to help hold a company accountable, while helping them steer clear of financial, legal, and ethical pitfalls.

Ownership Concentration

Ownership structure is one of the aspects influencing the leeway of managers and corporate governance in general. Ownership concentration refers to the proportion of a firm’s shares owned by a given number of the largest shareholders. Ownership concentration is the ratio of shares held by the top ten shareholders to the total shares outstanding that is the ratio of tradable shares held by the top ten tradable shareholders to the total tradable shares. A high concentration of shares tends to create more pressure on managers to behave in ways that are
value-maximizing (Ndulue, Okoye & Amahalu, 2021).

**Board Size**

Board size refers to the total number of directors on the board of each sample firm which is inclusive of the chief executive officer (CEO) and Chairman for each accounting year. This will include outside directors, executive directors and non-executive directors. According to the Corporate Library's study, the average board size is 9.2 members, and most boards range from 3 to 31 members. Some analysts think the ideal size is seven. It is the total number of inside and outside directors on the board (Mbonu & Amahalu, 2021a).

**Audit Committee Size**

An audit committee is one of the major operating committees of a company's board of directors that is in charge of overseeing financial reporting and disclosure. The magnitude of the committee is the sum of memberships of the group chosen by the governing bodies. This figure of memberships is taken as a sign of means accessible to the group. The audit committee is generally composed of three to five members, the majority of whom should be board members. Audit committee members must be directors of the company, meeting the requirements set out in regulations published by the Minister. The audit committee members must be non-executive and independent (Mbonu & Amahalu, 2021b).

Audit Committee Size \( ACSZ = \) Audit committee size, measured as a percentage of audit committee members on the board.

**Fraud Management**

Fraud is an intentionally deceptive action designed to provide the perpetrator with an unlawful gain or to deny a right to a victim. Types of fraud include tax fraud, credit card fraud, wire fraud, securities fraud, and bankruptcy fraud. Fraudulent activity can be carried out by one individual, multiple individuals or a business firm as a whole. Fraud is intentional deception to secure unfair or unlawful gain, or to deprive a victim of a legal right (Amahalu & Obi, 2020b). Fraud management involves the prevention and control of fraud in any institution. Fraud management involves series of control activities put in place by the management of the bank to discourage fraud amidst their staff and external bodies also. There is no gainsaying that the control and prevention of banks fraud is a collaborating effort that involves management of the banks, government and its agencies and the society. Fraud management involves the installation and maintenance of reasonable system of internal control to protect the entity from loss through fraud or error. The ability of the management to prevent and control frauds in the bank depends deeply on the quality of the staff employed and the soundness of internal controls system in place.

**Artificial Intelligence Biometrics**

Artificial intelligence (AI) approaches include machine learning, deep learning and robotics. Advancement of global computing power and the availability of very large data sets have provided the infrastructure to accelerate the adoption of AI. Biometrics refers to any reliable method that differentiates one person from another using measurable qualities that may be physiological (fingerprints, hand geometry, retinas, iris, facial image) or behavioural (signature, voice, keystroke rhythms). These examples are a few among the many methods employed in today's world. In practice, all biometric systems run on a common principle that unfolds to a two-step process. The first step is Enrolment, in which new users are added to the database by recording their data for the first time. The term “AI” describes computing systems that exhibit some form of human intelligence. It covers a number of interlinked technologies including data mining, machine learning, speech recognition, and image recognition and sentiment analysis (Abhishek, Karthikeyan, Khan & Binu, 2020; Amahalu, Abiahu, Okika & Obi, 2016).

**Corporate Governance and Fraud Management**

The theories of economics show that the board of directors plays an important role in the corporate governance structure of corporations (Amahalu & Obi, 2020a). The concern of shareholders has to do with whether the board of director is capable to monitor/control managers to act in the interest of the owners. The general notion is that companies that have a large board size are likely to have effective supervision that can improve firm performance. Kawugana and Faruna (2018) argued that a large board is likely to possess specialized skills prerequisite for
efficient towards better performance. Dwi and Aryani (2019) also obtained a positive relationship between board size and performance. Another hypothesis about a small board size inducing a better performance has been presented by researchers arguing that limiting a board size rather improves communication and decision-making. Amahalu, Abiahu, Nweze, and Obi, (2017) documented a positive relationship between corporate governance and firm performance.

Theoretical Review

Agency Theory

The Agency theory developed by Jensen and Meckling (1976) suggested how the governance of a company is based on the conflicts of interest between the company’s owners (shareholders), its managers and major providers of debt finance. Agency theory is a management and economic theory that explains the various relationships and areas of self-interest in companies. Agency theory describes the relationship between principals and agents as well as the delegation of control (Amahalu, Nweze & Obi, 2017). An agent is a person who acts on behalf of another person, the principal, in dealing with other people. For example, a selling agent acts on behalf of a principal, a manufacturer of goods, to sell goods on the manufacturer’s behalf. Similarly, a stock broker is an agent who acts on behalf of a client (the principal) to buy or sell shares on the client’s behalf. The agent acts on the name of the principal, and commits the principal to agreements and transactions. In company law, the directors act as agents of the company.

Theory of Fraud Triangle

Cressey (1971) postulated the theory of fraud triangle. He observed that fraud is likely to occur given a combination of three factors; namely- Pressure (Motivation), Opportunity and Rationalization. Pressure here refers to needs or desires that have to be satisfied. It could be divided into financial pressure, vices, work-related pressure and other pressures. Opportunity to commit fraud, conceal the fraud or avoid being punished forms the second element of the fraud triangle. The third element is rationalization which entails giving unnecessary explanation(s) to justify one’s involvement in fraud. There exists pressure, motivation or compulsion on the fraudster who identifies opportunity which he utilizes and tries to justify his actions by unnecessary rationalization. This model is built on the premise that fraud is likely to result from a combination of three factors: motivation, opportunity and rationalization (Amahalu, Abiahu, Obi & Okika, 2016).

Empirical Review

Binti, Gaguk and Zuhroh (2021) analyzed the relationship between the causes of fraud, good corporate governance, and fraud. This study applied logistic regression analysis to test the 27 samples of banking companies from 44 banking companies during 2016-2019, so there were 108 observations. This analysis showed that competence and opportunity have a significant positive effect on fraud, but rationalization, pressure, and arrogance have no effect on fraud.

Waked and Aljaaidi (2021) examined the relationship between one of the major corporate governance attributes; family ownership and the audit committee activity across a sample of 430 publicly traded firms on the Saudi Stock Exchange (Tadawul) for the period 2012–2019. Using the Pooled OLS regression, the study found that family ownership is negatively associated with audit committee activity. This study reported that family ownership is negatively associated with audit committee activity.

Kustono (2021) investigated corporate governance mechanism as income smoothing suppressor. A quantitative data in Indonesian public manufacturing companies' financial statements dated December 31, 2009 - 2018 obtained from the Indonesian Capital Market Directory were used in the study. Hypothesis testing used a binary logistic regression approach. The practice of income smoothing exists in manufacturing companies in Indonesia. Audit tenure has a negative effect on income smoothing. The audit period is directly proportional to the auditor’s ability to limit income smoothing.
Methodology

Research Design

This study employed Ex-post facto research design.

Population of the Study

The population for this study consists of fourteen (14) quoted commercial banks in Nigeria as at 31st December 2020. This includes: Access Bank Plc; Eco Bank Plc; FCMB Bank Plc; Fidelity Bank Plc; First Bank Plc; Guaranty Trust Bank Plc; Jaiz Bank; Stanbic IBTC Plc; Sterling Bank Plc; Union Bank Plc; United Bank of Africa Plc; Wema Bank Plc; Zenith International Plc; Unity Bank Plc.

Sample Size and Sampling Technique

Purposive sampling technique was adopted to select commercial banks with up to date and complete annual reports and accounts for the study period (2008-2020). The sample size of this study, therefore, consists of thirteen (13) quoted commercial banks that were continuously listed and actively trading on the floor of the Nigerian Stock Exchange (NSE) during the period 1st January 2008 to 31st December 2020 and whose financial statements are available and have been consistently submitted to NSE for the period under study. They are: Access Bank Plc; Eco Bank Plc; FCMB Bank Plc; Fidelity Bank Plc; First Bank Plc; Guaranty Trust Bank Plc; Stanbic IBTC Plc; Sterling Bank Plc; Union Bank Plc; United Bank of Africa Plc; Wema Bank Plc; Zenith International Plc; Unity Bank Plc.

Source of Data

Basically, secondary data were utilized in this study which was obtained from the annual reports and statements of account of the sampled commercial banks for the period of study.

Model Specification

This study adapted the model of Koji, Adhikary and Tram (2021):

\[ \text{ROA} = \beta_0 + \beta_1 \text{OWNC} + \beta_2 \text{BDSZ} + \beta_3 \text{GEND} + \epsilon \]

Table 1 Variable Description

<table>
<thead>
<tr>
<th>Variable (Corporate Governance)</th>
<th>Proxies</th>
<th>Acronym</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Bank Plc</td>
<td>OWNC</td>
<td>BDSZ</td>
<td></td>
</tr>
<tr>
<td>Eco Bank Plc</td>
<td>BDSZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FCMB Bank Plc</td>
<td>GEND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fidelity Bank Plc</td>
<td>GEND</td>
<td></td>
<td></td>
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<tr>
<td>First Bank Plc</td>
<td></td>
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<td></td>
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<tr>
<td>Guaranty Trust Bank Plc</td>
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<td></td>
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<tr>
<td>Jaiz Bank</td>
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<tr>
<td>Stanbic IBTC Plc</td>
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<tr>
<td>Sterling Bank Plc</td>
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<tr>
<td>Union Bank Plc</td>
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<tr>
<td>United Bank of Africa Plc</td>
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<tr>
<td>Wema Bank Plc</td>
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<td></td>
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<tr>
<td>Zenith International Plc</td>
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<tr>
<td>Unity Bank Plc</td>
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</tbody>
</table>
Ownership Concentration | OWNC | the percentage (%) of shares owned by the largest shareholder |
Board Size | BDSZ | Total Number of Directors on the Board |
Audit Committee Size | ACSZ | Measured as the total number of audit committee members |

### Dependent Variable (Fraud Management)

| Artificial Intelligence Biometrics | AIB | 0 and 1 Dichotomy: 1 is coded if the Bank employed Artificial Intelligence Biometrics, otherwise we assign 0 |

## Data Presentation and Analysis

### Table 2 Pearson Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>AIB</th>
<th>OWNC</th>
<th>BDSZ</th>
<th>ACSZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIB</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OWNC</td>
<td>-0.4722</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDSZ</td>
<td>-0.1789</td>
<td>0.2124</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>ACSZ</td>
<td>0.3010</td>
<td>-0.3476</td>
<td>0.2595</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: E-Views 10.0 Correlation Output, 2021

The matrix result in table 2 shows that there is a negative relationship between OWNC (-0.4722), BDSZ (-0.1789) and AIB. On the other hand, ACSZ has a positive relationship with AIB at a coefficient factor of 0.3010

### 4.3 Test of Hypotheses

#### Table 3: Binary Probit Regression Analysis testing the relationship between OWNC, BDSZ, ACSZ and AIB

Dependent Variable: AIB  
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)  
Date: 11/07/21  Time: 18:35  
Sample: 2008 2020  
Included observations: 13  
Convergence achieved after 4 iterations  
Coefficient covariance computed using observed Hessian

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.056000</td>
<td>0.008169</td>
<td>6.855456</td>
<td>0.0000</td>
</tr>
<tr>
<td>OWNC</td>
<td>-0.484561</td>
<td>0.087261</td>
<td>-5.553004</td>
<td>0.0002</td>
</tr>
<tr>
<td>BDSZ</td>
<td>-0.804000</td>
<td>0.175883</td>
<td>-4.571232</td>
<td>0.0008</td>
</tr>
<tr>
<td>ACSZ</td>
<td>0.502000</td>
<td>0.063140</td>
<td>7.950564</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

| McFadden R-squared | 0.543551 | Mean dependent var | 0.615385 |
| S.D. dependent var | 0.506370 | S.E. of regression | 0.503816 |
| Akaike info criterion | 1.623395 | Sum squared resid | 2.284473 |
| Schwarz criterion | 1.797226 | Log likelihood | -6.552071 |
| Hannan-Quinn criter. | 1.587665 | Deviance | 13.10414 |
| Restr. deviance | 17.32324 | Restr. log likelihood | -8.661620 |
| LR statistic | 14.29098 | Avg. log likelihood | -0.504005 |
| Prob(LR statistic) | 0.000000 |                  |        |
Interpretation of Regression Result

The result of the Binary Probit Regression analysis in table 3 shows a negative relationship between OWNC ($\beta_1 = -0.484561$); BDSZ ($\beta_2 = -0.804000$) and AIB, while a positive relationship exists between ACSZ ($\beta_3 = 0.502000$) and AIB. The determination of significance reveals that OWNC has a z-statistic of -5.553004 and a p-value of 0.0002 demonstrating a significant negative relationship between OWNC and AIB. Similarly, BDSZ has a z-statistic = -4.571232 with a p-value = 0.0008, indicating a significant negative relationship between BDSZ and AIB. ACSZ exhibited a positive and significant relationship with AIB as denoted in the z-Statistic of 7.950564 and p-value = 0.0000.

Thus, regression equation:

$$AIB = 0.056000 - 0.484561 \text{OWNC} - 0.804000 \text{BDSZ} + 0.502000 \text{ACSZ} + \mu$$

The implication of this model is that a unit increase in OWNC and BDSZ will respectively exert 48.46% and 80.40% reduction in AIB. On the other hand, an increase in ACSZ will cause AIB to increase by 50.20%. The McFadden R-squared of 0.543551 shows that OWN, BDSZ, and ACSZ has 54.36% influence on the dependent variable (AIB), while, 45.64% was attributed to other factors outside the scope of this study.

Decision

Sequel to the regression result, this study submits that there is a significant but negative relationship between Ownership Concentration and Artificial Intelligence Biometrics; significant but negative relationship between Board Size and Artificial Intelligence Biometrics, while, a significant and positive relationship exists between Audit Committee Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria at 5% level of significance respectively.

Findings, Conclusion And Recommendations

Findings

Based on the result the following summary of findings was provided:

i. There is a significant but negative relationship between Ownership Concentration and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria at 5% level of significance ($\beta_1 = -0.484561$; P-value = 0.0002).

ii. There is a significant but negative relationship between Board Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria at 5% level of significance ($\beta_2 = -0.804000$; P-value = 0.0008).

iii. There is a significant and positive relationship between Audit Committee Size and Artificial Intelligence Biometrics of Commercial Banks in Nigeria at 5% level of significance ($\beta_3 = 0.502000$; P-value = 0.0000).

Conclusion

This study examined the relationship between Corporate Governance and Fraud Management of quoted Commercial Banks in Nigeria for a period of thirteen years ranging from 2008-2020. Ownership Concentration, Board Size and Audit Committee Size were used as measures of Corporate Governance (the independent variable). On the other hand, Artificial Intelligence Biometrics was used to proxy Fraud Management (the dependent variable). Binary Logit regression was employed to determine the relationship between the dependent
and independent variables. The result of the analysis indicated that there is a significant but negative relationship between Ownership Concentration, Board Size and Artificial Intelligence Biometrics, while a significant and positive relationship exists between Audit Committee Size and Artificial Intelligence Biometrics of quoted Commercial Banks in Nigeria.

**Recommendations**

Against the backdrop of the findings, the following recommendations were advanced:

i. Based on the negative relationship between Ownership Concentration and Artificial Intelligence Biometrics, there is need for further awareness about the manner in which the Artificial Intelligence Biometrics work and the need for further clarity on the role of each stakeholder in fraud prevention.

ii. There is the need for boards to be more effective in their monitoring roles so as to reduce the occurrence of fraud

iii. The independence of the boards should be maintained and cooperation mechanisms among stakeholders should also be encouraged for more efficient fraud prevention

**References**


