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## BOARD CHARACTERISTICS AND FINANCIAL STATEMENTS FRAUD IN SELECTED QUOTED MANUFACTURING FIRMS IN NIGERIA

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### Abstract

The main objective of this study is to investigate the relationship between board characteristics and financial statement fraud in selected manufacturing companies in Nigeria. The study utilized a sample of seventy five (75) companies from the universe of companies quoted on the Nigerian Exchange Group (NGX). The data was a combined property of time series and cross-sectional covering the period 2016-2022, with six hundred (600) company-year observations. The study utilized descriptive statistics, correlation analysis, factor analysis, pooled binary logistic regression analysis and panel binary logistic regression analysis with the aid of Statistical Package for Social Sciences (SPSS), strata 13 and E-view 9.0. The result of the study reveals that board composition has the likelihood to increase financial statement fraud. The result shows that the size of the board of the selected sample companies has the tendency to increase financial statement fraud, even though the extent is not statistically significant. The relationship between female gender composition and financial statement fraud was positive though statistically insignificant at the 5% level. It shows that the presence of female board members is not likely to reduce financial statement frauds of the sampled companies. Among others, we recommend the inclusion of more external independent directors on the board. We also advocated for female gender representation on the corporate board.

**Keywords:** Financial Statement Fraud, Board Composition, Board Of Directors, Board Size And Board Female Gender.

### INTRODUCTION

Companies are constantly vulnerable to fraud from several sources that are related to them. Even Nevertheless, the majority of frauds committed by outside parties are often large-scale and dangerous. Still, insiders work with you on this most of the time. Most of the fraud cases that have been documented in organizations have shown that fraud committed at the management level has a severe and astounding impact on companies like Worldcom, Parmalat, Enron, Cadbury Nig. Plc, Unilever Plc, African Petroleum Plc, Oceanic Bank, International Bank, Access Bank, and many more. It has also been found that top management was either directly or indirectly responsible for the successful penetration of such malicious acts. According to

Uwuigbe, Olorunshe, Uwuigbe, Ozordi, Ashiriwa, Asaolu, and Erin (2019), corporate fraud poses the greatest risk to business organizations and is a sign of managerial skill or incompetence as well as flaws in corporate procedures. These institutions are in place to assist control top management excesses, but whenever this malevolent behavior by an organization's management occurs, it plainly displays a failure in the current board composition managing its operations.

Many authors have attempted to create a model that captures the corporate governance system and its roles in identifying and preventing accounting irregularities in an effort to discover strategies to stop accounting abnormalities that cause financial quagmires (Godwin, 2017, Ibrahim & Jehu, 2018). Increasing the number and functions of independent directors, doing away with the chairman-CEO duality, and improving the assessment of accounting anomalies are some of their suggestions. Unfortunately, because to the scarcity of information similar to that released by the US Securities and Exchange Commission (USSEC), not much is known about this field outside of the US and other industrialized nations.

Financial statement fraud has been encouraged by lax corporate governance; the corporation is not a victim of financial statement fraud but rather a tool utilized to carry out the deception. The majority of emerging countries, including Nigeria, continue to experience widespread financial report manipulation and theft in the name of management, despite the many governance frameworks and mechanisms in place (Uwalomwa, Eluyela, Uwuigbe, Obarakpo & Falola, 2018). As a result, the topic has drawn a lot of attention and response throughout the years due to the endless collateral harm that undermines businesses' long-term viability. The purpose of financial statements is to serve as a trustworthy resource for stakeholders evaluating the company's financial performance as well as for investors making investment choices (Asiriwa, Uwuigbe & Uwuigbe, 2018).

When financial statement fraud happens, the firm is not the victim; rather, it is the tool of the crime; the offenders are employees of the company and have high enough positions to allow them to intimidate other staff members into taking part in the fraud. The creation of a strong board for the company's good governance is one of the strongest internal controls to combat financial statement fraud as it happens inside the organization (Uwuigbe et al., 2019). This research examines board composition and financial statement fraud in a subset of Nigerian listed manufacturing businesses, based on the aforementioned issue. This study's main goals are to look at the connection between board composition and financial statement fraud in a sample of Nigerian industrial businesses that are publicly traded.

## **LITERATURE REVIEW**

### **Financial Statement Fraud and its Measure**

The Association of Certified Fraud Examiners (ACFE) (2018) views a financial statement as a tool used to convey to users and stakeholders the accurate and fair picture of the business. A company's financial statement is its lifeblood, revealing its current position as well as its sources of funding and future directions. These include: systems in which an entity commits fraud against its employees or third parties; misappropriation of assets (inside or outside the system, such as embezzlement, payroll fraud, and theft); revenue or assets acquired from illegal or unethical activities (excessive customer billing or fraudulent sales practices); cost of illicit

purposes (commercial and public bribery as well as other improper payment systems); and fraudulent financial reporting. Fraud may be perpetrated externally by clients, suppliers, and other parties, or internally by staff members, managers, officers, and business owners. All types of fraud are serious and deserving of discussion.

Three scores are available for measuring financial statement fraud: Altman Z-score, F-score, and M-score. But Beneish M-Score was utilized in the article. The income statement, statement of cash flows, and statement of financial position are all connected, according to Beneish (1999). Hence, when certain statistics seem off, we might suspect financial statement fraud. The M-score was created in 1999 by Professor Messod Beneish to identify wage manipulation. Eight financial measures are used by the mathematical M-Score model to determine if a corporation has falsified its financial accounts. The variables were built using the financial statements of the business, and a score was generated to indicate the extent of earnings manipulation. It is comparable to the Altman Z-Score in many aspects, but its main objective is to identify profits manipulation. Between 1982 and 1992, Beneish used every company in the Compustat database. The outcome shown that there is a substantial correlation between the presence of fraud and Beneish's weighted and unweighted probability of earnings manipulation. He saw from his study that the outcomes often indicate places where a problem is most likely to exist. A corporation is suspected of being a manipulator if its M-Score is higher than -2.22, which is less negative than this value. If the company's M-Score is less than -2.22, it suggests that it is probably not a manipulator. Beneish discovered that in his out-of-sample testing, he could accurately identify more than 76% of manipulators while misidentifying 17.5% of non-manipulators. While expert financial analysis failed to identify Enron as an earnings manipulator, researchers using the Beneish M-Score model did so successfully.

### **Board Composition and Financial Statement Fraud**

The impact of board composition on financial statement fraud, earnings management, and creative accounting is still being debated. According to agency theory, outside directors should dominate the board in order to strengthen the board's independence from management (Fama & Jensen, 1983). Prior research on this topic has been conducted in both established and developing countries, and the results have been mixed. An investigation was undertaken into the board of directors' connection and financial statement falsification. For the research, 150 (15) publicly traded companies were selected. The study's definition of financial statement fraud is confined to two types: instances in which management knowingly releases materially deceptive financial statement information to outer users and instances in which senior management misappropriates funds. According to the empirical findings, no fraud businesses have a larger proportion of outside directors than fraud firms. Tham, Sulfana, Singh, and Taplin (2019) gathered empirical data supporting the link between the number of independent directors on corporate boards and the prevalence of management-perpetrated fraud in Australian public businesses from 2010 to 2017. According to the research findings, non-fraudulent businesses had a considerably larger percentage of independent directors on their boards than fraudulent ones. Fernandez-Temprano and Tejerina-Gaite (2020) studied the link between the board of directors and earnings management in publicly traded firms from 2006 to 2009. Their findings revealed a negative but

not statistically significant relationship between board composition and earnings management. In Nigeria, Fodio et al (2020) evaluated corporate governance procedures and reported profits quality in Nigerian listed insurance businesses from 2013 to 2018. According to the findings, board composition is both favorably and strongly related to profits management. Two significant implications were proposed by Aggarwal, Jundal, and Seth (2019). To begin, empirical data supports the required nomination of independent directors to the boards of Australian public enterprises. Second, he demonstrated that evidence of a link between board composition and the occurrence of management fraud may be valuable to auditors when assessing risk and designing the scope of audit tests for fraud. Previous studies investigated the link between the Board of Directors and false financial reporting (Baker, Lopez, Reitenga, and Ruch 2019; Buchholz, Lopatta, and Mass 2020; Bouaziz, Salhi, and Jarboui 2020). Chouaibi, Harres, and Brahim (2018) found in Tunisia that non-fraudulent enterprises had boards with a considerably greater proportion of external members than fraudulent firms based on empirical data from logit regression analysis. However, the chance of financial statement fraud diminishes as external director ownership in a business and external director tenure on a board grow, and when the number of external directors in other companies controlled by external directors declines. Chen, Cussatt, and Gvny (2020) evaluated listed businesses' family control, board independence, and profits management. The findings indicate a substantial inverse relationship between earnings management or financial statement fraud and a larger share of external directors. The research also revealed that increasing the amount of external members on the board of directors improves management monitoring and helps to minimize earnings management behavior. Mnif and Cherif (2021) explored the features of corporate governance and earnings management. Their findings reveal that there is no empirical evidence between earnings management with board independence or composition.

H<sub>01</sub>: There is no significant relationship between board composition and financial statement Fraud in selected quoted manufacturing companies in Nigeria.

### **Board Size and Financial Statement Fraud**

The board size includes all members of the board of directors, independent of their other qualities. Several studies have voiced varying views on the role that board size has in their capacity to execute on their mission. Kipkoech and Rono (2016) contended that smaller boards perform better than bigger boards because they are simpler to coordinate/observe and do not suffer from the free rider issue. Larger boards, on the other hand, according to Kusnadi, Leong, Suwardy, and Wang (2016), are better equipped to investigate more options and obtain the required resources for the business.

Chou and Buchdadi (2016) discovered that corporate boards with more than seven or eight members are less likely to act successfully as a check on management. In accordance with this, Georgantopoulous and Filos (2017) feel that smaller boards are more successful since they are easier to administer and allow for efficient communication among directors while reducing possible misconceptions. Larger boards are said to be less successful because of the increased coordination required, as well as procedural issues that might lead to less effective monitoring roles (Feruleva & Shtefan, 2017). Hu and Loh (2018), on the other hand, claim that too tiny and

too big board sizes are predicted to be ineffectual. This is based on the premise that a big board takes on less duty and a small board takes on too much accountability.

Larger boards are more likely to be dysfunctional (Usman et al, 2022), while smaller boards are more successful in carrying out their governance oversight obligations. Wahid (2018) came to the conclusion that board size has a negative relationship with corporate performance. Umer, Abbas, Hussain, and Naveed (2020), for example, revealed that when a board's size grows, profitability and financial efficiency ratios fall, but Tham et al (2019) discovered that an increase in board size might be connected with a decline in company value. The active participation of the board in monitoring management is crucial for the survival of all organizations that are distinguished by the separation of ownership and decision making. The size of a company's board will be determined by how successfully it performs its oversight tasks and understands the interests of its shareholders.

**H0<sub>2</sub>:** Board size does not significantly affect financial statement fraud of selected quoted manufacturing companies in Nigeria.

### **Gender Composition and Financial Statement Fraud**

According to evolutionary biology literature, women are specialized in distinct occupations as a consequence of natural necessities. As a consequence, there have been arguments and counter-arguments concerning women demonstrating crucial qualities required for successful government. Women, in particular, are said to be careful, risk-averse, adept in accounting and finance, and effective decision-makers (Eriabie & Izedonmi, 2016). As a result, some academics have lately concentrated on the influence that female executives and directors may have on the firm's financial performance and market value.

Numerous researchers, including Lotfis and Chadegani (2017), MacCarthy (2017), and Kozlov et al (2018), have shown that female directors may improve business performance and market value. Similarly, Isukul and Chizea (2017) show that female directors minimize conflict on corporate boards and employ board development activities including work instructions, evaluations, and development programs to promote board performance. Numerous empirical researches on the association between female directors and corporate financial success are inconclusive. Some studies have shown a favorable link between female directors and financial success, while others have discovered no or even a negative relationship. In reality, many academics believe that having women on corporate boards does not inevitably boost business performance.

After adjusting for industry and company age, Mahdi et al (2019) find no significant differences between male and female run enterprises. Nonetheless, he finds evidence that female-controlled enterprises may outperform male-controlled firms. According to Mayur and Saravanan (2017), the average impact of female directors on business performance is negative. This is not to say that having women on boards of directors has no beneficial influence; they may increase financial performance in businesses with poor corporate governance.

Pillai and Al-Malkawi (2018), on the other hand, studied the relationship between female directors and return on total assets for 679 businesses from the Fortune 1,000 data pool. The study's results reveal a link between having women on management teams and financial





BODFEGEN	0.738333	1	4	0	0.817094	600
RGROWTH	0.126558	0.066596	5.585844	-0.85779	0.396828	600

Source: Researchers Computation from E-Views, 2023

The descriptive statistics for regression variables are shown in Table 1. The dependent variable of FRAUD, which represents false financial statements, has a mean of 0.730000 and a median of 1.000000. With a high of 17.000000 and a low of 4.000000, the average board size is roughly 9.000000. The average number of outside directors is 0.659067, suggesting that around 65% of the board's total members are outside directors. The board composition variable has a maximum value of 1.000000 and a minimum value of 0.170000. The tested businesses had an average age of 27 years, with a minimum of 2 years and a maximum of 55 years. The studied businesses' average size is about ₦7.0, with a minimum of ₦4.94B and a high of ₦8.98B. The average number of female board members is 0.738333. The regression variables' standard deviations are quite low, suggesting that the data is of high quality. These findings are supported by the Jacque-Bera and histogram normality tests.

Table 3

*Correlation Coefficient*

Correlation Probability	t-Statistic	FRAUD	BODSIZE	BODCOM	FMAGE	FMSIZE	BODFEGEN	RGROWTH
FRAUD		1.000000						
BODSIZE		0.005121	1.000000					
		0.125220	-----					
		0.9004	-----					
BODCOM		0.058120	0.109911	1.000000				
		1.423687	2.704163	-----				
		0.1551	0.0070	-----				
FMAGE		-	0.110221	-0.042359	1.000000			
		0.007729	2.711866	-1.036785	-----			
		-	0.0069	0.3003	-----			
		0.189021						
		0.8501						
FMSIZE		-	0.429638	-0.108137	0.030379	1.000000		
		0.087302	11.63498	-2.659974	0.743230	-----		
		-	0.0000	0.0080	0.4576	-----		
		2.143060						
		0.0325						
BODFEGEN		0.007403	0.228568	0.026267	0.084586	0.119389	1.000000	
		0.181044	5.741395	0.642550	2.075900	2.940581	-----	
		0.8564	0.0000	0.5208	0.0383	0.0034	-----	
RGROWTH		-	-0.058234	0.062431	-	0.012647	0.036218	1.000000
		0.066305	-1.426487	1.529665	0.140686	0.309289	0.886262	-----
		-	0.1542	0.1266	-	0.7572	0.3758	-----
		1.625008			3.474913			
		0.1047			0.0005			

Source: Researchers Computation (E-views) 2023

From the result in table 3, it is clear that there is a mixed correlation between the dependent and independent variables. Board size (0.005121), board composition (0.058120), and board female gender composition (0.007403) are positively associated with the dependent variable of the fraudulent financial statement. The other variables are firm age (-0.007729) and firm size (-0.087302) are negatively related to the dependent variable of financial statement fraud. The values of the correlation coefficient are relatively small and indicative of the absence of the

problem of multicollinearity in the regression variables. From the result in Table 2, the highest correlation coefficient is 0.42938. The value is however below the benchmark of 0.80 and does not pose any problem of multicollinearity. The result of the absence of the problem of multicollinearity is further strengthened by the result of the variance inflation factor in Table 4.

### Regression Analyses

Table 4

#### *Panel Least Square Regression Analysis*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.007286	0.746685	1.349011	0.1779
BODSIDE	0.016540	0.015021	1.101149	0.2713
BODCOM	0.077511	0.174324	0.444637	0.6568
FMAGE	-0.025841	0.010061	-2.568581	0.0105
FMSIZE	0.032341	0.122272	0.264504	0.7915
BODFEGEN	0.013154	0.034667	0.379447	0.7045
RGROWTH	-0.085781	0.048681	-1.762124	0.0786
Effects of specification				
Cross-section fixed (dummy variables)				
R-squared	0.554078	Mean dependent var		0.729097
Adjusted R-squared	0.438655	S.D. dependent var		0.444798
S.E. of regression	0.412811	Akaike info criterion		1.193703
Sum squared resid	88.10362	Schwarz criterion		1.788821
Log likelihood	-275.9172	Hannan-Quinn criter.		1.425405
F-statistic	2.201274	Durbin-Watson stat		1.885014
Prob (F-statistic)	0.000000			

Source: Researcher's computation (E-views) 2023

The coefficient of multiple determination of 0.554078 and the adjusted R-squared value of 0.438655 shows that on the average, about 44% of the systematic cross-sectional variation in the dependent variable of FRAUD is accounted for by the explanatory variables of BODSIZE (board size), BODCOM (board composition) and BODFEGEN (board female gender composition) and the control variables of FMAGE (firm age), FMSIZE (firm size) and RGROWTH (revenue growth rate). The robust F-statistic of 2.201274 and the significant probability value of 0.000000 is an indication of a significant linear relationship between the explanatory, control variables and the dependent variable of fraudulent financial statements. The Durbin-Watson statistic of 1.885014 is substantially close to the 2.00 benchmark which indicates the absence of autocorrelation in the regression variables. The result of the DW statistic is a further confirmation of the result of the diagnostic test of serial correlation which indicates the absence of serial correlation in the variable of regression.

Table 5

#### *Pooled Binary Logit Regression*

Variable	Coefficient	Std. Error	z-Statistic	Prob.
BODSIDE	0.022549	0.043425	0.519256	0.6036
BODCOM	1.357601	0.513356	2.644558	0.0082
FMAGE	0.00842	0.008149	0.103325	0.9177
FMSIZE	-0.016689	0.072643	-0.229742	0.8183
BODFEGEN	0.035977	0.118466	0.303693	0.7614
RGROWTH	-0.352417	0.227525	-1.548920	0.1214
Mean dependent var	0.729097	S.D dependent var		0.444798
S.E. of regression	0.445003	Akaike infor criterion		1.181617
Sum squared resid	117.2321	Schwarz criterion		1.225700

Log likelihood	-347.3034	Hannan-quinn criter.	1.198780
Deviance	694.6068	Restr. Deviance	698.6493
Avg. log likelihood	-0.580775		
Obs with Dep = 0	162	Total obs	598
Obs with Dep = 1	436		

Source: Researcher's computation (E-views) 2023

The variable of board composition reported a mean value of 0.659067 which means that about 66% of the total directors on the board of the selected companies are outside directors. This is not consistent with the findings of Irene (2021) who reported an average of 50.2%. The result of the variable of interest board composition in the logit cross-sectional regression is positive and statistically significant at the 5% level, with a robust z-value of 2.644558 and a probability value of  $0.0082 < P = 0.05$ . The result of the study shows that the current board composition of the sampled firm increases the likelihood for the fraudulent financial statement.

### Discussions and Policy Implications

The results confirm the prediction that the proportion of outside members on the board of directors is lower for firms experiencing financial statement fraud compared to no-fraud firms. Results from logit regression models show that control for cross-sectional differences is important firm-specific characteristics suggest that the inclusion of outside members on the board of directors increases the board effectiveness at monitoring management for the prevention of financial statement fraud. Meanwhile, the logit regression test for variables between firms that have committed fraud that is beneficial to existing shareholders and firms that have not committed fraud. As theorized no significant result exists, suggesting that board size and board female gender do not affect the likelihood of financial statement fraud and, therefore, cannot prevent financial statement fraud. Even though there is a lack of significant results, this research does not give an insight into the issue. Further research is necessary to explore board characteristics and financial statement fraud.

Finally, the analysis shows that not only does board composition significantly affect the likelihood of financial statement fraud but board size, board female gender, firm age and revenue growth also influence the likelihood of financial statement fraud.

In addition to the pooled binary logit regression analyses above, we also carried out a panel binary logit regression analysis to strengthen the result of our study. In the panel binary logit regression, we analysed both the fixed and random effect, and based on the result of the Hausman test; we had a preference for the random effect model.

### CONCLUSION AND RECOMMENDATIONS

From the empirical analysis, the study showed that the application of the Beneish M-Score model could help in detecting the likelihood of financial statement fraud. The study, therefore, concludes that the Beneish M-Score model can help in detecting the likelihood of financial statement fraud but it does not ensure 100% detection of financial statement fraud, it only offers an indication of areas where auditors are likely to concentrate their time rather than chasing endless red-flags without direction. As Such, the paper made the following submissions:

1. Management should ensure the inclusion of more outside independent directors on the board, so as to increase the board's effectiveness and un-bias monitoring as this would prevent or cut down financial statement fraud.

2. The average board size of the sampled companies under study is nine (9), directors. And the result of the pooled and panel logit regression was positive though statistically insignificant. The implication is that the average board size of nine (9) directors has the likelihood to increase financial statement fraud.
3. increased female gender practice in the corporate boards of Nigerian listed companies.

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