BOARD GENDER DIVERSITY AND EARNINGS MANAGEMENT OF LISTED INDUSTRIAL COMPANIES IN NIGERIA

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Keyword: board gender diversity, female board members, male board members, earning management, earning per share

Abstract
This study sought to investigate the connection among board gender diversity and earnings management of listed industrial goods companies in Nigeria for the period of 2018-2022. The study used retrospective research design and stakeholder theory to anchor the work. The predictor variable of the study board gender diversity was proxied with male board members (MBM) and female board members (FBM) while the dependent variable earnings management had its dimension as earning per share (EPS). The data obtained from the audited annual report of the company used were analysed using descriptive statistics and regression techniques. The finding depicted a positive significant connection amid female board members and earnings per share. Likewise, a significant negative relationship was found between male board members and earnings per share. The study concludes a significant relationship between board gender diversity and earning management of listed industrial goods companies in Nigeria. The study recommended that more competent and educated females should be appointed to the board of the corporation and that the number of male board members currently should be reduced to improve earnings in the corporation.

INTRODUCTION
The success of every corporate organization about its financial performance is traceable to its management. It can be deduced in terms of the competence of board members without segregation of gender diversity on the board. Gender diversity deals with the number of male and female board members, of a corporation. The policies of board gender diversity advocate for equal opportunity in the selection of a board member for a position on the board without segregation between both male and female genders. The importance of gender difference on a board of any business enterprise cannot be overstressed because a gender-diverse board could result in a good corporate image and lead to high corporate financial performance.

A proper mix of skill and competence on the board of any corporation needs to ensure effective decision-making. Women's expertise and skill complement those of the men in decision-making in terms of deliberation with
important issues leading to the effective performance of the entity (Eklemet et al, 2023). Gender diversity is an issue that has always attracted responsiveness from every sector of an organization, be it private or public institutions. Admission into universities in addition to representation in the parliament have not been spared from the demand for gender diversity necessitating female to be given equal chances as to their male contemporaries. It is assumed that competent female board members can bring innovative concepts to the board resulting in better financial performance of the corporation (Sathyarmourthi et al., 2017).

It had been argued that women presence on the board of a corporation might improve team decision-making and ultimately result in increased performance and value of the corporation share. Despite these, numerous evidence suggest that women are underrepresented in senior executive and board positions (Kalu, 2016). Especially in African countries socio-cultural practices hinder women from attaining high corporate levels. It has been observed in Nigeria that women are underrepresented in boardrooms of corporations despite how talented and well-educated a woman may have been.

Several empirical research on board gender diversity resulted in diverse findings. Some showed a positive influence on financial performance (Humera et al., 2017; Kalu 2016) some negative relationship (Rekha, 2018) others had no relationship (Kushani & Hirundu, 2017; Malik & Abdul, 2017). The lack of consistency among the researchers created a knowledge gap. Hence the study Board Gender Diversity and Earning Management of Listed Industrial Goods Companies in Nigeria was undertaken to determine its relationship among the variables of the study.

**Conceptual Framework**

![Conceptual Framework Diagram]
Research Purpose:
The general purpose of this study is to investigate the connection among board gender diversity and earnings management of listed industrial goods companies in Nigeria. The precise aims are to:
1) Investigate the connection among male board members and earnings per share of listed industrial goods companies in Nigeria.
2) Investigate the connection among female board members and earnings per share of listed industrial goods companies in Nigeria.

Research Hypotheses:
The null hypotheses for this study are stated below.
Ho1: there is no significant connection among male board members and earnings per share of listed industrial goods companies in Nigeria.
Ho2: there is no significant connection among female board members and earnings per share of listed industrial goods companies in Nigeria.

AGENCY THEORY
Agency theory is one of the theoretical frameworks underlining board characteristic issues. This theory was developed by Jensen and Meekling (1976). This theory emphasizes on the connection amid the master (principal) and the servant (Agent), where the agent accomplishes services on behalf of his master through delegation of responsibility and authority to act. The theory undertakes that both the principal and agent maximize value with different interests. Due to information disproportionateness, the agent will not want to act in the best interest of his master resulting in an Agency problem to resolve the problem or limit the divergence of interest, incentives are given to the agent which is known as Agency cost (Kalu, 2016). According to agency theory, it is believed that the primary function of the board of directors is in charge of the internal control mechanism of the organization. They provide services to the corporation Principal in terms of monitoring the behavior of the managerial staff. It had been argued that the main tasks of the corporation's board of directors are to: monitor managerial behavior on behalf of the corporate owners; formulate strategic decisions about corporate activities; detect managerial misconduct and remove the affected manager. Agency theory as designed for effective corporate governance tends towards promoting shareholder values by preferring a small board size to a large board size, encouraging a large number of non-executive directors on the board, and board gender diversity. This theory is appropriate to this study as it states the relationship between the shareholders and the management of a corporation toward effective performance.

CONCEPTUAL REVIEW
BOARD GENDER DIVERSITY
This has to do with the presence of both male and female gender on the board of any corporation to ensure firmness and equity, board diversity is necessary for effective governance to promote good decision-making. The board of any corporation requires diversified resources from both male and female
genders to effectively perform the board function of directing and controlling.

Dabor et al. 2015 assert that gender diversity allows for ranges of opinion on the board for efficient oversight function and inhibits the personal interest of management. A diverse provides effective representation of various interest groups in the corporation.

The Nigerian Code of Corporate Governance (2018) states that board diversity is necessary for effective governance to promote good decision-making. Malik et al. (2017) posited that gender diversity mainly deals with the number of female director on the board and that women director does not significantly influence organizational performance. Deschenes et al. (2015) assert that gender diversity deals with the number of women on the board of a corporate entity. They stated that firms that promote women to top management positions tend to have higher performance. Their study found that the number of female gender on board influences firm performance significantly. The study suggested that more women should be elected to the board.

Sathyamourthi et al. (2017) stated that gender diversity indicates female board members proportion to the overall board members. Gender diversity is an issue that has been attracting attention from every sector and organization be it private or public organisations. Mihaela et al. (2018) in a study of women on boards and financial performance discovered a positive association between the female gender and performance, meaning that an increased number of female gender helps to increase corporate performance. They stated that female directors help prevent fraud in an organization.

**FEMALE BOARD MEMBER**

This denotes the number of women on the board of a corporation. Malik et al. (2017) posited that board gender diversity mainly deals with the number of female managers on the board and that women director does not significantly influence organizational performance. Deschenes et al. (2015) assert that gender diversity deals with the number of women on the board of a corporate entity. They stated that firms that promote women to top management positions tend to have higher performance. Their study found that the number of female gender on board influences firm performance significantly. The study suggested that more women should be elected to the board.

Sathyamourthi et al. (2017) opined that board gender diversity indicates female board members proportion to the whole board members. Morwa et al. (2017) stated that a greater number of females on the board will negatively influence firm performance because women are mostly risk-averse because high risk results in high return (turnover). The boards of directors are now becoming more gender-balanced worldwide due to increased legislation, advocacy groups, and institutional investors. They stated that a board with adequate representation of gender balance could allocate more time to monitoring and supporting board activities (Praveen & Allesandro, 2016).

**MALE BOARD MEMBER**

Male board members deal with the total number of men on the board of the corporation. Boards of directors around the world consist of male gender and a minute percentage of directors are female.
Empirical Review

Humera et al. (2017) investigated diversity on corporate boards and firm performance in Malaysia. Secondary data was used which was obtained from a sample of 100 non-financial listed firms' annual reports in Malaysia using judgmental sampling from 2009 to 2013. The analysis was done using descriptive and regression analysis. The finding showed that gender diversity had a significant positive impact on firm financial performance, indicating rise in female gender on the board will improve firm performance. The study concluded that women's involvement at the corporate level would improve the profit of the corporation. The study recommends that diverse board members should be on the board to promote better firm performance.

Beatrice et al. (2018) investigated corporate governance and firm performance in Ghana. The precise aims of the study were to determine the connection among board size, board independence, and board gender diversity on firm performance. The referent of the independent variable used were board size, board independence, and gender diversity while the proxies of firm performance used were return on equity and return on asset. The theory backing the study used in this work was resource dependency theory and agency theory. Secondary data were used for the studies which were collected from eleven (11) manufacturing firms listed on the stock exchange in Ghana from 2009 to 2013. The analysis was done using descriptive statistics, Pearson’s correlation, and panel regression analysis. The result of the empirical analysis showed that gender diversity and board independence had a important positive association with return on asset as well as return on equity. The study further revealed that board size does not show any relation with return on asset as well as return on equity. The study concluded that corporate governance influenced firm performance. It was recommended that female board members as well as outside managers should be appointed to the board to improve the performance of the the firm.

Rekha (2018) investigated a study on does corporate governance affects financial performance in India. The precise aims of the study were to determine the influence of board size and female directors on return on equity. The proxies of corporate governance used include board size, chief executive officer duality, board committees, female directors, average remuneration, and board meetings whereas financial performance was proxy by return on equity. The methodology adopted was a cross-sectional research design. The study adopted secondary data, and the study population involved banks in India. The data were collected from the annual report of nine (9) selected banks based on judgemental sampling covering a period of 2008 to 2015. Descriptive statistics alongside panel regression technique was used. The result of the finding revealed that board size positively relates to performance, meaning a large board influences financial performance positively;
chief executive officer duality had a significant positive association with a measure of performance. However female managers had an important negative connection with bank performance, meaning that the small number of female board members, affected financial performance negatively, the study concluded that corporate governance affects financial performance in Indian banks. Kushani and Hirindu (2017) investigated the relationship between corporate governance and firm performance. The precise aims of the study were to determine the influence of board size, board female directors, and board independence on return on asset, and return on equity. The study was anchored on Agency theory. Secondary data was used for the study. The data were collected from fifty-six (56) out of sixty-two (62) banking, finance, and insurance sector firms on Colombo stock exchange starting 2012 to 2015. The data was analysed by means of descriptive statistics and multiple regression. The outcome showed a lack of important association amid board size, board independence, and board female directors with firm performance variables however a positive significant relation was observed between board effectiveness and return on equity. The study concluded that there was a weak connection between firm performance and corporate governance in the Colombo stock exchange. Malik and Abdul (2017) researched corporate governance and firm performance in Malaysia. The detailed goals of the study were to determine the connection among board composition, gender diversity, and board size on return on assets. The referents for the predictor variable were board composition, board size, remuneration committee, risk management committee, and gender diversity, whereas the criterion variable of the firm’s performance was proxy by return on assets. Stakeholder theory was used to anchor the study. The study employed a quantitative survey method; the source of data used for the study was primary data. The tool for data gathering was a survey inquiry form structure to elicit relevant information on corporate governance mechanisms and financial performance. The target population was all companies registered with the Malaysia Construction Industry Development Board. The statistical tools used were descriptive statistics such as mean and percentages. The analysis of primary data collected from 124 construction industry development boards in Malaysia was carried out using descriptive statistics, logistic regression, and Pearson’s correlation. The finding indicated that board composition, size and risk managing committee significantly affect firm performance in Malaysia while remuneration committee and gender diversity do not affect the performance of the firms in Malaysia. The study concluded that good corporate governance is a panacea for efficient firm performance and therefore recommended that the code of corporate governance should be implemented in Malaysian companies to enhance efficient performance.
Sathyamourthi et al. (2017), studied the impact of corporate governance on financial performance in Botswana. The explicit goals of the study were to evaluate the relationship between board gender diversity, board size, and non-executive directors on return on assets. The study focused on stewardship and agency theory. The methodology adopted was analytical and descriptive research design. Secondary data used in the study was obtained from the population of all listed consumer services sectors in Botswana from 2012 to 2016. The analysis of the data was done by means of descriptive statistics, regression, and correlation analysis. The finding disclosed that board size, number of male board members, and non-executive directors have an important positive connection with return on assets. However, the study discovered that gender board diversity and the number of executive board members significantly influence the return on assets negatively. Likewise, many non-executive members have a positive connection with return on asset board meeting frequency was discovered to have a positive connection with return on asset. The study concluded that corporate governance influences the performance of the consumer services sector in Botswana. It was recommended a balance in gender diversity on the board of the consumer services sector in Botswana.

Kalu (2016) studied the corporate governance and profitability of listed companies in the Nigerian food and beverage industry. The specific goal of the study is to determine the connection between board size, board composition, skills, and competencies, and board gender diversity in terms of board performance. The research uses agency theory, shareholder value theory, stakeholder theory, resource dependence theory, political theory, and values synergy approach. The research design adopted was descriptive. The study utilized secondary sources to collect data from annual reports of selected companies. The statistical tools employed were descriptive statistics and inferential statistics. The analysis of formulated hypotheses was done using ordinary least square multiple regression with secondary data obtained from eight (8) out of 23 companies quoted in the stock exchange of Nigeria using random sampling techniques within the time frame of 2004 to 2014. The finding depicted a positive connection among board size, board gender diversity and return on equity as well as net assets per share whereas board composition, competence, and skills negatively relate to net assets per share and return on equity. The study concluded that the acceptance of good corporate governance practices improves transparency, ensures accountability, improves risk management as well as aligns shareholders' interest with that of managers, and unwraps way for corporate accomplishment. The study therefore recommended that Nigerian food and beverages companies have to take on effective corporate governance practices as a solution for enterprise advancement and existence.

Deschones et al. (2015) investigated the impact of board traits on the social performance of
Canadian firms. The dimension used for the independent variables is the size of the board of directors, director compensation, tenure years of managers, director’s ownership, and gender while social performance variables used were corporate social responsibility community and society corporate governance employee scare and environment score. The theory used in the study was stakeholder theory. This study espoused a descriptive research method. The data source is secondary data extracted from the annual financial statements of the selected companies. Descriptive and multiple regressions are statistical tools used. The analysis of data collected from 60 large public Canadian firms from 2004 to 2008 was carried out using multiple regression analysis. The finding indicated that the corporate social responsibility score had a significant positive association with members of independent directors and the female gender. There was no connection between corporate social responsibility and director remuneration, director’s tenure, and director ownership. It was concluded that the choice of women and independent directors must be given greater prominence because it helps to improve corporate social responsibility.

Aernan et al (2023) investigated Board characteristics and financial performance of DMB, Evidence from Nigeria. Secondary data used for the study was obtained from the financial reports of twelve companies listed in the Nigeria stock exchange for 2011-2020. The data collected were analysed with the statistical tools known as regression. The finding discovered a negative significant connection with board size, board ethnic diversity, and financial performance. Likewise, a non-significant negative association was observed between board independence and financial performance. However, board gender diversity and board diligence had a positive but no significant relationship with the financial performance of Deposit Money Banks. It was concluded that board size and board ethnic diversity affect the financial performance of Deposit Money banks. The study recommends for ethnic heterogeneity on the board for proper equity and fairness. Also, recommend six board meetings minimum a year and adequate board gender balance.

Nguyen and Thi (2023) studied the characteristics of the board of directors and corporate financial performance in Vietnam from 2006 to 2020. Agency, resource dependency, and pecking order theories were used in the study. The method of data analysis used was descriptive statistics and regression model. The result of the study revealed that female board members, board members' Education level, board of direction size, and meeting frequency positively impact on firm financial performance.

METHODOLOGY
This study espoused the use of a retrospective research design. This research design similar to the survey research gather data to be able to further evaluate the available fact and it is difficult to manipulate the characteristics. The population of this study comprises all 13 industrial goods companies listed in Nigeria stock market. The sample size was ten listed industrial goods companies for 2018 to 2022 representing about 76% of the total population. The sample size where chosen based on convenience and availability of financial data covering the period. The collected data were tested by means of descriptive statistics and regression analysis aided by SPSS version 22.0.
MEASUREMENT OF VARIABLES

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBM</td>
<td>Female board members</td>
<td>Number of females on company board.</td>
</tr>
<tr>
<td>MBM</td>
<td>Male board members</td>
<td>Number of males on company board.</td>
</tr>
<tr>
<td>EPS</td>
<td>Earnings Per Share</td>
<td>Net income after tax x 100 / Total shares</td>
</tr>
</tbody>
</table>

Model Specification

Beis is the model used to test the hypotheses.

EM = B₀ + B₁ BGD + et........1

EPS = B₀ + B₁ MBM + B₂ FBM + et........2

Where:
- EM= Earnings Management
- BGD = Board Gender Diversity
- EPS = Earnings Per Share
- MBM= Male Board Member
- FBM= Female Board Member
- B₀= Intercept
- et = error terms

DATA PRESENTATION, ANALYSIS AND DISCUSSION

Table 1.0 descriptive statistics for all variables of the study.

Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>FBM</th>
<th>MBM</th>
<th>EPS</th>
<th>Valid (listwise) N</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Minimum</td>
<td>.00</td>
<td>4.00</td>
<td>-2.66</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>5.00</td>
<td>9.00</td>
<td>5.08</td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>110.00</td>
<td>333.00</td>
<td>41.07</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.2000</td>
<td>6.6600</td>
<td>.8215</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.22890</td>
<td>1.36442</td>
<td>1.26448</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>.701</td>
<td>.000</td>
<td>.608</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.784</td>
<td>-.656</td>
<td>2.391</td>
<td></td>
</tr>
</tbody>
</table>

Source: SPSS Version 22.0 Output 2023.

a. Dependent Variable: EPS
b. Predictors: (Constant), MBM, FBM

The table shows how the descriptive statistic results on minimum, maximum, sum, mean, standard deviation, skewness, and kurtosis for all variables of the study. The shows show 50
cases with no one missing throughout the variables of the study. The mean of the data which indicates the measures of central tendency is displayed for FBM 2.200, MBM 6.6 and 60, EPS 0.815 likewise the standard deviation of the spread of the distribution as a measure of dispersion is also displayed as follows FBM 1.2289, MBM 1.36442 and EPS 1.26448 to determine asymmetry in distribution, skewness is computed. To be free from normality problems, the data for all variables of the study should be within skewness tolerable limit of -2 to +2. From the table, none of the skewness values is above one (1) meaning that the data assumes a normal distribution. The kurtosis shows a positive value of less than three throughout the variables of the study indicating platykotic distribution.

**Table 2.1, 2.2, and 2.3 Regression Result on Male Board member, female board members on Earnings per share.**

**Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. Change</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.273a</td>
<td>.075</td>
<td>.035</td>
<td>1.24199</td>
<td>.075</td>
<td>3.543</td>
<td>2</td>
<td>47</td>
<td>.031</td>
<td>1.891</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), MBM, FBM
b. Dependent Variable: EPS

**Source: SPSS Version 22.0 Output 2023.**

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.966</td>
<td>2</td>
<td>1.924</td>
<td>3.543</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>25.521</td>
<td>47</td>
<td>.543</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26.487</td>
<td>49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: EPS
b. Predictors: (Constant), MBM, FBM

**Source: SPSS Version 22.0 Output 2023.**
The tables above show a Pearson correlation coefficient of 0.273 which indicates a weak connection among the regressors and earnings per share. The determination coefficient \( r^2 = 0.075 \) implies that 7.5% of variations in earnings per share are attributed to changes in the regressors, while 92.5% of changes in earnings per share are attributed to other variables not used in the model.

The calculated value of \(|3.543|\) with an alpha value of 0.031<0.05 significant level indicates the appropriateness of the model. Durbin Watson's test statistic showed 1.891 which is closer to 2.0 indicating the absence of autocorrelation. Hence the utility of the model was upheld by the researchers.

**Female board members (FBM)** had a t-value of \(|2.942|\) and a significant alpha value of 0.012<0.05 indicating a significant positive relationship on earnings per share. This implies that a 0.33 increase in female board members will improve earnings management resulting in an increase in earnings per share. The findings of the study concord with the work of Dabor et al. 2015, Humera et al. (2017), Beatrice et al. (2018), and Kalu (2016) who discovered a significant relationship between board gender diversity and net profit margin in the industries investigated. It was at variance with that of Sathyamourthi et al. (2017), and Rekha (2018) who discovered a negative significant affiliation among board gender diversity and net profit margin.

**Male board members (MBM)** had a t-value of \(|2.210|\) and a significant alpha value of 0.024<0.05 indicating a significant negative relationship between male board members and earnings per share. This implies from Table 2.3
that a 0.206 decrease in male board members will lead to an increase in earnings management resulting in to increase in earnings per share. The finding of the study disagrees with the work of Sathyamourthi et al (2017), which discovered a significant positive connection between return on asset.

**Conclusion and Recommendation**
The necessity of gender difference on the board of a corporation cannot be overstressed because a gender-diverse board results in a good corporate image with high corporate performance. From the empirical findings, it is evident that the existence of more female board members other than male board members will improve the earnings of industrial goods companies listed in Nigeria. The study concluded a significant connection among board gender diversity and earnings management of industrial goods companies listed in Nigeria. Because of the findings, the following recommendations are necessary to improve earnings in the corporation:

- More competent and experienced females should be appointed to the board of listed industrial goods companies in Nigeria.
- There should be a reduction in the number of male board members in listed industrial goods companies.

**REFERENCE**


Nigerian Code of Corporate Governance, 2018


https://doi.org/10.3390/economies1/02 0053