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Directors' Observable Characteristics and Firms Performance in Nigeria: A Panel Analysis

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Abstract This study looked at the observable characteristics of directors and the performance of publicly traded companies on the Nigerian stock exchange floor. Secondary data on observable features such as board size, board gender diversity, non-executive director, and board independence, as well as Tobin's Q performance measure, were used in a cross-sectional research design. The disproportionate random sampling technique using a sample of 100 firm-year observations covering 25 active listed firms in the periods of 2015 to 2018 was employed. The panel least squares analysis was employed as the estimation method. The unit root and co-integration tests for panel data were used as pre-estimation tests to determine the long-term convergence status of the variables. The findings revealed that among the directors' qualities studied, board size and non-executive directors had a significant impact on firm performance; more importantly, only non-executive directors had a positive impact. On the basis of the findings, it was suggested that females be given more opportunities in the board composition because of their natural role of being meticulous, while the board size be reduced to decrease agency costs.

Keywords Corporate Governance, Board Size, Board Gender Diversity, Board Independence, Tobin’s Q, Firms Performance, Observable Factors

JEL Classification: G34; L25; M19

1. Introduction

In recent years, Nigeria's business environment has been tainted by fear and uncertainty, resulting in the failure of certain businesses. Despite the anxieties and uncertainties, the range of opportunities and low prices make developing countries like Nigeria an appealing investment destination, and corporate governance is undoubtedly essential for successful investment. Corporate governance is the way corporations are governed; it is the process by which corporations are directed and managed.

Fundamentally, organizational success depends on its corporate governance. Corporate governance is considered a way of running a business. This is the way or strategy of governing and managing a company [1, 32]. The company is controlled via the board and relevant committees to safeguard the interests of the company's stakeholders and the performance. High-quality corporate governance has become very important to protect investors and strengthen and stabilize capital markets [2, 3, 4, 33].

Previous studies [5, 6, 7] have shown that high-quality corporate governance can improve company performance, thereby attracting investment. Despite the company's efforts to establish a high-quality management mechanism and the regulatory framework of the companies has played a fundamental role in formulating a diversified corporate governance code for the company, there are still cases of bankruptcy of companies, which have attracted more people's attention. Corporate governance research is

increasing; therefore, it is imperative to study the nexus between board of directors' characteristics and firms' performance.

Al-Matari et al. [5] states that since the 1930s, global organizational experts have made assumptions related to corporate governance, including board characteristics, transaction costs, one-to-one institutional correspondence, agent behavior, professional communities, resource dependency and stakeholder management. The Board of Directors (BoD) is an important mechanism for any company whose characteristics and behaviors influence the performance of the company. The board of directors plays a vital role in corporate governance because its main responsibility is to oversee management to ensure due accountability to shareholders and other stakeholders. They are responsible for leading and guiding the company, as well as protecting and planning the interests and investments of the shareholders.

To be precise, BoDs perform many direct and indirect functions in a corporation, which include deciding company's strategies; supervising and controlling managers; appointing, supervising and stating the salaries and allowances of senior managers; linking the corporation to outside environment. These functions make the BoDs one among the foremost vital inside corporate governance control strategy in a corporation which directly or indirectly impact on organizational performance. When these functions are done well, the organization's performance is positive otherwise negative. Contrarily, BoDs are criticized for organization's downfall and reduction in shareholder investment value, especially when their functions are seemed to be poorly executed [3], which negatively affect firm performance.

The functions of BoDs are driven by some unique characteristics of the administrators. There are two (2) variants of board characteristics which affects directors' performance, namely: observable and non-observable factors. A number of the observable factors are BoDs size, BoDs independence, BoDs education level, BoDs gender diversity, while the unobservable factors are emotions royalty, interpersonal relation, communication. This paper focused on four (4) observable characteristics namely board size, gender diversity, non-executive director, and independence.

Problem Statement

One of the legal requirements for incorporation of an organization has BoDs, which is why most corporate firms are governed by BoDs. Also, most non-incorporated organization features a board that supervises and monitors the activities of the organization. Given the countless BoDs in situ now, it's rational to ask the following questions. Why there are numerous BODs? What do they exist for? And why do they exist? What do they do? Can they be improved? What's their relationship with firm's achievement? These many questions et al. are at the centre of corporate governance and management researches.

BoDs are widespread in the world, during a sort of for-profit and nonprofit organizations; more importantly, the existence of BoDs preexist these legislations. In fact, the available signal suggests the opposite. Doards are deadweight cost to the firm; it's expected of them to all or any be at minimum size as fixed by legislation. Yet, actually, BoDs are normally much larger than required by legislation.

A more conceivable theory is that BoDs are a market and financial password to a company design problem, an endogenously determined institution that assists with improving the agency challenge that plague large corporation and generally improve firm performance. If this theory is to be accepted, the large question is what the observable characteristics of the BoDs are, which will be a market and financial solution, help to amend the agency problems and generally improve performance of a firms?

Theoretical Framework

The theoretical framework of this paper is anchored on the Affective Events and Agency Theories; these theories are briefly discussed as follows:

- ***Affective Events Theory (AET)***

Affect has been defined as how one feels on the work or one's emotional reaction to job events. AET, as postulated by [9], proposed a nexus between job affect and on-the-job behaviors. Affective Events Theory provides a framework for understanding events that produce emotional responses in employees by proposing that these reactions cause long-term consequences for a corporation, including employees' attitude, behaviours, and job performance". By using the affective theory, it then portends that the emotions of a director could have an impact on his/her job performance which translates to the how well/not well a firm does, because the firm value may be a function of the director's effectiveness on the work.

- ***Agency Theory***

The principal-agent framework is employed by [10] to clarify the conflict of interest between managers and shareholders. The agency problem as espoused by Jensen and Meckling (1976) is an important part of the contractual view of the firm. Directors are contractual agents of the firm, and one of their primary functions is to watch and direct the affairs of the firm. This function by the board is vital due to the potential costs incurred when management pursues its own interest at the expenses of shareholders' interests.

Berle et al. [11] declared that when ownership and control are separated (as they're in latest firms), managers may pursue their self-interest at the expense of profit maximization, thereby creating "agency" costs, which is

consistent with the scholars like [12], and [13], which states that observing and checking by board of directors can reduce agency costs inherent within the separation of control and ownership, during this way, improve firm value".

Board Size

Board size is the number of directors on board. There are two schools of thoughts – small and enormous board size, but there's no agreement on which of them is best. Scholars within the first school of thought are of the view that tiny board size contributes more to the achievement or performance of a firm [14, 15]. Additionally, Yermack [15] claimed that slow deciding and time consuming are some attributes of huge board. The second hypothesis believes that company performance is often improved through large board size because it allows the gathering of more information and data which hence quality and good deciding [16]. Nevertheless, board size is probably going to inspire firm achievement or productivity. Consistent with Abor [17], there's a positive nexus between BoDs size and firm's leverage.

Board Independence

BoDs independence refers to a company board with majority of out of doors directors. It is believed that subjugated by external or independence directors are more careful of monitoring behaviours and deciding the firm [18]. The rationale is that shareholders' interest might be well protected by external directors than the interior directors.

They bring in additional skills and knowledge to the corporate which increases expertise necessary for strategy implementation. For Independent directors, to hold out their obligations well, they ought to be liberated from management's influence. The effective monitoring by independent directors reduces agency costs and increase company performance [12]. The existence of independent BoDs gives superior quality to board's negotiation, discussion and decision [19]. However, in completing their function of monitoring, and supervisor independent BoDs face abundant task as they're indirectly affiliated with the organization's management [20].

The fact that independent directors are on board doesn't promise upright corporate governance control. It is possible that some independent BoDs are hired to fulfill the slightest legislatory necessities. A number of the BoDs might not be actually independent from the organization's executives who hire them or they could have developed strong acquaintance with the highest management over the amount they need served on the board.

In order to preserve BoDs independent, Nigerian stock market spelt out conditions for selecting of independence BoDs as follows:

- Be free from any relation with the corporate which will affect his ability to form independent judgments;
- An accomplice or a pacesetter of the organization's legal review firm, equivalent or counseling firms that partner with the organization for a really while going before his arrangement;
- Should haven't any business dealings that would impair his capacity to act in an autonomous manner
- Should not be a vendor, supplier or customer of the company;
- A member of the direct family of the one that is or has been within the employment of the corporate for the past three years;
- Has not served the corporate in any capacity or been employed by the corporate for the preceding 3year financials;
- Should not be one whose shareholdings both direct and indirect do not go above 1% of the firms' paid-up-capital.

John et al. [21] pronounced that a board is more independent if it's significant non-executive directors. Other studies like [22] have shown nexus between independent BoDs and performance of firms.

Gender Diversity

Studies on women on BoDs have received considerable attention and have led to the legislation in some countries making reservations for women in the board of firms. As an example, in Europe, especially, Norway and Sweden imposed gender quota on BoDs of listed companies [23]. Also, the USA Security and Exchange Commission mandated all listed companies to encourage diversity within the appointment of board members. The presence of girls on board is increasing. Within the words [24], "women hold about 15% of board seats in Fortune 500 companies in 2010, while they also occupied 9.4% board seats of French companies.

Most companies select women into board which supported the resource to which they will provide access [25]. They carry resources like prestige, skills, knowledge, and connection to external resources. Several studies are conducted to determine the bexus between board women and company performance but findings of those studies are mixed. [24]; Luckerath-Rovers [26] found a positive significant nexus between women directors and performance of organization. Smith et al. [27] found significant effect of girls board membership on firm performance.

Non-executive Member

Members from inside have an important role in monitoring the overall manager and in exchange, the insiders are under careful observation of the overall manager. In other words, inside members may send

information to outside members if there's evidence of abuse made by the overall manager. In other words, if inside members play an efficient role in watching and facilitating information asymmetries, this might increase the firm's corporate governance structure that ultimately will cause better performance.

However, generally within companies of the market inside members are usually aligned with the overall manager and since of their relationship with the latter default, members of the inside cannot contribute to the effective monitoring of head. Therefore, BoDs with many executives doesn't automatically increase firm's performance. The structure of BoDs must ensure equality between executive board members and non-executive board members in order that no group can dominate, generally, the resolution of the BoDs.

Extant Empirical Studies

Saidu [1] conducted a search on CEO (chief executive officer) characteristics and firm productivity with emphasis origin of the firm, educational qualification of the CEO and ownership structure of the firm. The research investigated the study employing a period of six years spanning from 2011-2016. The research collected data banking sector listed on the Nigerian stock market within the amount under survey (2011-2016). The research found that CEO academic qualification improves the productivity of a firm and also that previous experience of the chief executive on the firm increases the firm stock performance.

Atty [3] did an inquiry on the effect of board of directors' characteristics on firm's financial performance using Egypt stock exchange. The most objective of the research were to work out if board of directors' characteristics affects firms listed in Egypt stock exchange form the amount of 2012 to 2017. The dependent variables were: CEO Duality, Board Size, Meetings, Independence and Gender Diversity while ROA, ROE and Tobin's-Q were the dependent variables as measure of firm's financial health. From the investigation, it revealed that there's a close relationship between Board Size and firm's financial health, but there is not any significant relationship between Independence board and firm's financial performance. Eventually, the research revealed no significant relationship between Gender Diversity and firm's financial health

Somathilake [28] empirically researched into board of directors' characteristic effect on firm financial performance using the Colombo stock exchange as a case in point spanning over a period of two years (2015/2016 – 2016/2017). The investigation used blue chips firm with high turnover for the research. The dependent variables utilized in the research study were board of directors' size, academic qualification of board members, independence of board members and feminine composition. ROA used because the experimental variable and a proxy firm financial performance. The research found a negative but significant relationship between board of directors' size and firm financial performance. In the same vein, the research found that female composition and firm performance have negative and no significant relationship. While board of directors' independence and academic qualification had positive and no major influence on firm performance. Among the control variables, firm size was found to possess major and positive influence on financial performance.

Moss [29] empirically investigated the difficulty of board members gender composition and its effect on firms' performance in the UK. The research covered a period of seven years (2008 to 2014) employing a panel data with fixed effect regression model. The result from the research revealed that female board membership had no major influence on the performance of firms in the UK within the amount of the research. However, the research showed that female board of directors majorly enhances firm performance in high-risk contexts; especially within the period of monetary distress within the financial (banking) sub-sector. The research reinforces both the moral and business involves increased gender diversity within the board of directors' membership.

Fujianti [7] empirically analyzed top management attributes and company performance using forty public corporation enlisted within the Indonesian stock exchange. The research results indicated that top managers age, and tenures of top managers are pivotal in determining company success. However, the research was silent and provided no result on the influence of gender on company success or performance. The research reiterated the importance of accelerating female representation within the management of Indonesian public corporation.

2. Materials and Methods

The correlation research design was used to assess the BoDs observable characteristics (size, gender diversity, non-executive, and board independence) as independent variables and firm performance (dependent variable - Tobin-Q).

Population and Sample of the Study

The study population consists of 370 active and trading listed stocks in Nigerian Stock market with a breakdown of 92 active listed firms in 2015 and 92 active listed firms in 2016, 93 in 2017 and 93 in 2018 (https://www.cashcraft.com/ plistorder.php). The study used disproportionate random sampling technique using a sample of 100 firm-year observations covering 25 active listed firms in the periods of 2015 to 2018.

Data Collection

The Secondary data offers a reliable source of the information needed by researchers to investigate the phenomenon and seek efficient was for problem solving situations. The data for all the variables was extracted from the annual reports and accounts of the listed companies at the Nigerian stock exchange selected for the study covering the years 2015 to 2018. Data of observable characteristics obtained were board size, gender diversity, non-executive director and independence, while performance measure is Tobin's Q.

Model Specification

Based on the objectives of the study, the following regression equation was estimated:

$$Cop = \beta_0 + \beta_1 \, Bsize + \beta_2 Bind + \beta_3 Bnex + \beta_4 Bgend + \varepsilon$$

Where:

Cop = company performance measured by Tobin Q (market value/total asset)

Bsize = The number of directors on board

Bind = percentage of independent directors on board

Bnex = percentage of non-executive to size of board

Bgend = percentage of women directors on board

ε = Error term

The Estimation Techniques

The estimation technique used in this study is the regression analysis. This is to enable the researcher test the magnitude and direction of the independent variables (size, gender diversity, non-executive, and board Independence) as independent variables and firm performance as the dependent variable (Tobin Q). The pre-estimate tests statistic is a unit root test used to test for the presence of unit root using ADF and co-integration test to find the convergence status of the variables in the long run.

3. Results

The variables in the model may be non-stationary resulting in the regression model to generate spurious result; and the outcome will be biased towards finding a significant relationship among variables [30, 31]. To overcome spurious results, the time-series aggregates are usually subjected to test of stationary by testing for the presence or absence of unit root using Argument Dickey-Fuller (ADF) test. The test was done for 1, 5 and 10 percentages. The results are summarized in Table 1 below.

Table 1. Unit Root Test using ADF

Variable	1%	5%	10%	t-statistic	Pro	Order of Integration
COP	-3.498	-2.891	-2.583	-10.189	0.0000	I(0)
Bsize	-3.498	-2.891	-2.583	-8.167	0.0000	I(0)
Bind	-3.532	-2.906	-2.590	-6.829	0.0000	I(0)
Bnex	-3.499	-2.891	-2.583	-8.559	0.0000	I(0)
Bgend	-3.498	-2.891	-2.583	-10.445	0.0000	I(0)

At 5% significant level;

Source: Researcher's computation2021

All the variables are stationary at order zero or origin I(0). This means that the data converged after random walk at origin, thereby absenting the data spuriousity and avoiding making nonsense of the model.

Table 2. Co-integration Test Result

Unrestricted Co integration Rank Test (Trace)				
Hypothesized		**Trace**	**0.05**	
No. of CE(s)	**Eigen Value**	**Statistic**	**Critical Value**	**Prob.****
None*	0.773	186.336	69.819	0.0000
At most 1*	0.486	100.379	47.856	0.0000
At most 2*	0.428	61.804	29.797	0.0000
At most 3*	0.275	29.372	15.495	0.0002
At most 4*	0.169	10.704	3.843	0.0011

Trace test indicates 5 cointegrating eqn(s) at the 0.005 level

*denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: researcher's computation 2021

The result in table 2 shows that there exist at least five (5) co-integrating equations at 5% level of significance because the likelihood ratio is greater than critical values at 5%. This shows that there is a long-run relationship between and among variables. The result indicates that in the long run, the dependent variables can be efficiently anticipated using the independent variables.

Table 3. Fixed and Random Effects Results (DV: COP)

Variables	Fixed Effect Result	Random Effect Result
C	**-0.105** (0.971)	**2.487** (0.221)
Bsize	**-0.380** (0.284)	**-0.539** (0.042)*
Bind	**0.195** (0.676)	**-0.259** (0.485)
Bnex	**0.947** (0.042)*	**0.948** *(*0.011)*
Bgend	**-0.071** (0.889)	**-0.073** (0.872)
Prob(F-statistic)	0.625	0.039
D.W stat	2.129	1.689
Hausman Test		0.565 > 0.05
Cross-sections included	25	25
Number of observations	85	85

Source: researcher's computation 2021: Note: P values in bracket( ) * (significant)

From the result in table 3, since the Prob>chi2 (0.565) is greater than 0.05, it means that the result of the random effect is preferred to the fixed effect, hence the random effect result is more desirable. The result of Prob>F, which is 0.039 and less than 0.05, showed that all the coefficients in the model are different from zero which makes the empirical model suitable. Again, the result of Durbin Watson (*DW) statistic* of 1.689 indicated the absence of serial auto correlation in the empirical model of the study.

4. Discussion

The relationship between observable characteristics and firm performance has generated debate in developed nations of the world; however, there is dearth of empirical studies in this area in developing nations like Nigeria. Given the dearth of studies, this study assessed the relationship between observable characteristics and firm performance in Nigeria. Findings of the study showed that out of the four observable characteristics investigated, only two, board size and non-executive membership, significantly affect firm performance. Moreover, all the observable characteristics have negative coefficient except non-executive membership which has a positive effect on firm performance.

Specifically, the coefficient result of board size revealed that a unit increase board size will decrease corporate performance by 0.539 and it significantly affects corporate performance because the p value (0.042) is less than 5%. This means that an increase in board size will reduce company performance by 54%. This means that large board size is not good for a company and it is significant. In the same vein, a unit increase in board independence will decrease corporate performance by 0.259 but it is insignificant.

Impliedly, this means that an increase in board independence will reduce company performance by 26%. This means that the more independent board membership is, the more detrimental it is to the company but not significant. In addition, a unit increase in board non-executive membership will increase firm performance by 0.948 and is significant. This means that an increase in board non-executive membership will increase company performance by 95%.

This goes to mean that more independent board membership is good for a company and it is significant and lastly, a unit rise in gender diversity will reduce the performance of firms by 0.073 but it is insignificant. This means that an increase in gender diversity will decrease company performance by 7.3%. This goes to mean that diversity of board membership is not good for a company but insignificant. The results of our study agree in part with the findings of [1, 3, 28, 29, 7]

5. Conclusion

This study has investigated directors' observable characteristics and firm's performance using twenty-five

(25) listed companies in the Nigerian Stock Exchange for a period of four years spanning from 2015 to 2018. A cross-sectional research design was used and secondary data of observable characteristics (board size, board gender diversity, non-executive director, and board independence) and performance measure (Tobin's Q) were obtained.

Findings indicated that out of the four (4) directors characteristics (size, gender diversity, non-executive, and board independence) studied, only two (board size and non-executive membership) significantly affect company performance. Also, all the independent variables have a negative coefficient except non-executive membership which has positive effect on company performance. Given the findings of the study, it was recommended that female directors should be given more opportunity in the board composition because of their natural role of being meticulous and diligence in their various assignments while size of the board should be cut-down; this may go a long way in boosting firms' performance.

In fact, the findings of this study, apart from being the few studies in Nigeria with unique business climate, will informs the chief executive officers, shareholders as well as investors that how the performance of a firm is a function of directors' characteristics. In general, this study provided academics and practitioners with a clear view about the relationship between board characteristics and firm performances in Nigeria. Again, future researchers may consider conducting a comparative analysis of certain directors' observable characteristics and firms' performance in Nigeria to ascertain whether there is any difference between in the period of four years and beyond.

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