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Firm Characteristics and Share Price of listed Healthcare Companies in Nigeria

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Abstract

The study examined firm characteristics and share price to ascertain if certain notable features of firms could cause variation in the value of listed healthcare companies in Nigeria within the period of 2006 to 2019. Data were obtained from the annual reports of selected companies. The analysis was carried out using descriptive analysis (Mean, Median, Standard deviation), as well as inferential statistics (Correlation and Regression analysis). Result revealed that board Composition has significant relationship with firm value. The implication here is that the composition of the board has a significant influence on the value of the firm. There is clear indication that good board composition will enhance the value of the firms. For board diversity, it was found to have a significant positive effect on average share price of listed healthcare firm companies. The imply that firms with good combination of females and males tend to enjoy an increase in market price. The study therefore recommended that healthcare companies should constitute their board in such a way as to reflect a sizeable number of non-executives with a mix of female and male directors.

Keywords: Board Quality, Board Composition, Board Diversity, Firm Value and Share Price
JEL CLASSIFICATION CODES: O16, M40, M41

1. INTRODUCTION

Over the years, firms' board attributes have received tremendous attention among various scholars even though the empirical results have shown mixed findings and fraught with lack of general consensus as regards the relationship between board features and performance. This increased attention was due to a number of high-profile corporate failures in numerous developed and developing nations (Ishaku & Dandago, 2016). The sudden collapse of some well-established firms like Worldcom and Tyco, Enron in USA; Parmalat, Barings Bank, Polly Peck in United Kingdom; Unilever Plc, African Petroleum, Afribank Plc., Intercontinental Bank, Cadbury Plc. and Skye Bank in Nigeria, can be traced to negligence of their boards of directors in monitoring and discharging duties and poor corporate governance mechanisms which has led to intense reduction in share price, financial reporting scams and significant financial loss to a lot of individual investors (Jones, Li, & Cannella, 2015) and (Randall, Robert, Benjamin, George & Robert, 2011).

In the last fourteen years, a lot of political and economic reforms have been in place both in developing and developed nations in improving corporate governance, (Bernard & Woochan, 2011). To this end, the Nigerian Exchange Group (NEG) introduced a code of best practice for Nigeria public firms (revised in 2011). The objective of these codes is to align the interest of managers and shareholders through an effective board; listed companies were being encouraged to obey the codes because better corporate governance results in better performance of companies. The governance policy process is going beyond the macroeconomic stability as efforts are critically dedicated on development of legal infrastructures that supports businesses and the creations of regulatory mechanisms that is compatible with the best world practices. There are both the internal and external features which influence the market value of firms' shares. The internal factors are otherwise referred to as firm governance features mainly in terms of board attributes, which is majorly the scope covered by this study. The external factors, conversely, are those features which are largely further than the controls of the firm and are usually seen as macro-economic characteristics. These include economic growth, inflation, exchange rate and monetary policies.

The concept of corporate board attributes has been viewed differently by several researchers. Abdulazeez, (2016) and Shehu, (2012) described corporate board attributes as those characteristics or variables that relatively stick with a firm in a level across time, and it usually affects the firm's internal and external decision. Corporate board attribute typically includes board diversity, board size, board composition, board independence, chief executive officer duality, board members educational background, working experience, board structure, outside directors, compensation and block holders (Babatunde & Olaniran, 2009; Ehikioya, 2009; Kajola, 2008; and Akhalumeh, Ohiokho & Ohiokha, 2011). All of these studies further affirm that these variables are significant in explaining firm value, it was however discovered that many of these studies focused mainly on firm performance in the financial and non-financial industry with emphasis on commercial banks and manufacturing firms respectively. The healthcare sector has suffered neglect despite its significance in the Nigerian economy.

The healthcare sector is an enormous part of a country's economy. It is one of the world's largest and fastest-growing industries. The contributions with respect to the development and growth of the entire economy which is made by the healthcare sector cannot be overemphasized. As the saying goes, "Health is wealth", the health industry is vital to the economic and social development with ample evidences that joins productivity to healthcare sector delivery. Likewise, apart from the federal, state and local governments' ministries, various departments and parastatals, the healthcare sector is on top with respect to employment of labour. It is also capital intensive with capitalization of about 32.87 billion naira (NSE, 2018). The Nigerian healthcare sector is a sub-sector of the manufacturing industry. It engages in the production of drugs and laboratory equipment that is required for the rendering of effective healthcare services.

However, there are still other areas to consider in a bid to attain the upward moving level of shareholders protection brought about by the corporate governance scandals, especially in the developing countries whose economies appear still far from perfect as the rate of financial scandal is very alarming. There is need therefore to study this research phenomenon in the context of the Nigerian healthcare companies given their strategic significance to the economy.
Prior Nigerian studies have examined the effect of board characteristics such as board composition, ownership concentration, CEO duality and board size on performance of firms in various sectors. However, not much has been done as regards the influence of corporate board attributes on firm value, despite the strong relationship that had been established in the literatures between corporate board attributes and firm market values by other influential studies, (Dagsson, 2011; Luckerath-Rovers, 2011; and Haniffa & Cooke, 2002). Investigating firms' value in relation to corporate board attributes is desirable because it depicts the link between how competent the board is in coordinating the firms' management, for efficient utilization of the company's resources in generating corporate wealth and hence corporate value. This study argues that prior studies that ignored this factor are deficient, because board attributes is a direct reflection of the board prowess and it is entirely subject to their control. It is therefore expected that the more efficient the board is, the more the value of the firm.

Regardless of the various studies in this area, not much work has been conducted in the healthcare sector in Nigeria and covering fourteen (14) years, also proxing share market value as the average prices of shares as most of the literatures, explored solely the values as at the last day of the year. This technique is unsuitable because the investors react to corporate outcomes, which is revealed in the share's prices, when the news becomes available. Thus, measuring firm value as the share price at the end of the financial year will not give a true picture of the relationship between corporate board attributes and firms' value (Mohammed, 2017). It is on the basis that the study is considered essential as an attempt to fill these literature gaps by taking the quarterly average share price and Tobin's q as a measure of firm value. Also, the healthcare sector is considered different from the other sectors studied by previous researchers, because it is backed by some additional regulations and standards. This offers a good reason why the sector should be examined in isolation from the other manufacturing firms.

Therefore, this study is motivated by the need to determine the influence of board qualities on firms' share price in the stock market as proxy here by market capitalization. Specifically, the study examined the impact of board composition on market value; the effect of board diversity on average market price of listed healthcare companies in Nigeria.

2. LITERATURE REVIEW

2.1. Corporate Board Qualities

The boards are essentially saddled with the responsibility of providing oversight function, advising, and counseling the Chief Executive Officers (CEOs), monitoring and if required disciplining CEOs (Finkelstein & Mooney, 2003). It is one of the responsibilities of the board to render proper stewardship of both non-financial and financial activities of the organization to the shareholders/owners of firms. In relation to the agency theory, executives (agents) possess substantial powers and freedoms in managing shareholders (principals) resources. It is believed that the executives have some objectives that may be conflicting with that of the owners (principals), hence, ignoring shareholders wealth maximization objective (Masson, 1971). In lieu of this, it is being anticipated that the board of directors are expected to perform thorough functions of rewarding and monitoring the top executives in ensuring the attainment of maximization of shareholders wealth (Zahra & Pearce, 1989). Consequently, for the board of directors to achieve their functions effectively, some traits have to be in place (Tahir, Masri, & Rahman, 2020).

2.1.1 Board Composition

The board of directors is a collection of persons that are elected by the stockholders in establishing the corporate policies, overseeing company's management and making management decisions. It comprises of both executive and non-executive directors. The composition of the board is based on agency and stakeholders' theory. The board of directors had been observed to have impacts on firms' value. According to Obigbemi, Olusanmi Ben-Caleb, Omolehinwa, and Mukoro (2016), the Nigerian Code of Corporate Governance specified that the board composition should be made up of both independent directors/non-executive and executive to be headed by a chairman. The Nigerian Code of Corporate Governance stipulated a minimum of two (2) independent non-executive directors in company's board composition.

Hassan and Bello, (2013), argued that independent directors are free from managerial influence. The independent directors are capable to effectively monitor them, which enhances quality of financial information that is conveyed to financial statements users. They observed positive effects of the existence of independent directors on disclosures of the financial information. Weisbach (1988); Mehran (1995) and Pinteris (2002) had created facts in support of positive roles of outside directors on performance of firms. Literatures had also revealed that the small boards were more positively associated with high performance of firms (Sanda, Mikailu &

Garba, 2005 & Mak and Kusnadi, 2005). The results of the research of Kyereboah-Coleman (2008) showed that larger boards heightened the wealth of shareholders more positively than the small ones. Abu-Siam, Laili, and Khairi, (2014) argued that the board plays a supervisory role of directing the quality and reliability of financial information's, because managers are prone to manage earnings to the detriment of the shareholders. Independent directors/non-executive can be representatives of the financial institutions or officers of others firms. Based on their experiences, non-executive directors may contest decisions made by the managers and therefore exercise more efficient control. However, findings in Wu, (2009) showed that there is no significant association between the proportion of independent directors in the board and firm performance.

2.1.2. Board Diversity

A board which consists of directors with mix gender might be better equipped in dealing with a wide-ranging range issue. Obigbemi (2016) stated that the Nigerian Codes of Corporate Governance specified that composition of board of directors should endeavour diversity in the board, so that compatibility, independence, integrity and availability shall not be compromised. Women on the board have tendency for effectiveness and efficiency of the board control as women could be more trustworthy and stricter than the male contemporary. Their contribution in the board governance could assist in avoiding risky projects as they are by and large more financial risk-averse than the men (Byrness, Miller & Schafer, 1999). Most firms chose women into the board as a result of the resources to which they could provide access (Hillman, Shropshire, & Cannella, 2007). They bring in various resources such as knowledge, skills, prestige and connections to the external resources (Dang & Vo, 2012).

Literatures on women on the board of directors had gained attentions in recent period and had made contributions to legislations in some nations that made reservations for women in the board of quoted firms. For instance, Sweden and Oxelheim Norway enforced gender quota on the board of directors of quoted firms (Randoy, Thomsen & Oxelheim, 2006). Likewise, the United State Security and Exchange Commission authorized all quoted firms to encourage diversities in the appointment of the board (Puthenpurackal & Uphadhyay, 2013).

The existence of women on the board of directors is growing studies revealed that women hold close to 15 percent of board seats in Fortune 500 companies in 2010, while they as well occupied 9.4 percent board seats of the French companies (Dang *et al.,* 2012). Quite a lot of studies established the relationships between women on the board and performance of firms but results are inconclusive. Carter, Simkins and Simpson (2003), Luckerath-Rovers (2011) and Thompson, Dogarawa, Bello, and Fodio (2016) observed positive and significant relationships between women on the board and the performance of the company. Smith, Smith & Verner, (2006) and Tahir, *et al.* (2020) observed significant effect of women on board on the company performance.

2.2 Firm Value

Firm value represents assets owned by the firm. Firm value is regarded as a vital issue since it explains the prosperity of the firm's owner. Consequently, the manager, as a representative of the firm, is in charge to optimize the value of the firm (Nurul, 2014). A worthy firm value has the tendency to attract other party's interests in joining the firm. Modigliani and Miller, (1958) noted that the value of a company is determined by asset earnings power of the firm. The positive effect of asset earnings power showed that the firm has high earning power, then asset turnover would be more efficient and the profit would be huge. As a result of this, the value of the firm will also increase. Besides profit and asset, the company's debt policy also influences the changes of firm value. Nevertheless, it will be the opposite in some specific circumstances when the benefit of debt utilization is lower than cost incurred. The debt policy could create expected firm value, but it depends on firm size. This means that firm size will influence the competition in the stock exchange.

Most of the existing studies on firm value examined those factors that affect the value of a firm. It was observed that firm's wealth, organizational structure, human resources and technology with discounted future cash flows (Kayali, Yereli & Ada, 2007) and environmental elements of industrial establishment (Konar, Bailly & Cohen, 2001) can influence firm value. Some other studies explored management understanding, customer satisfaction, and product quality and technology usage and as factors which influences firm value (Akguc, 1998 & Duzer, 2008). Furthermore, a study had identified company' competitiveness as a factor that could influence firm value (Ansari & Riasi, 2016). In addition, there is research that concentrated on firm's financing and sustainable growth (Riasi & Pourmiri, 2016) in order to determine factors that affects firm value (Riasi, 2015b).

2.2.1 Tobin's Q

Tobin's q measured the relationships of firm stock market value to the company's resources replacement value (Sahay & Pillai, 2009). It is regarded as the preeminent predictor of the market correction (Pett, 2013) and it could explain the majority of investment variability (Cooper & Ejarque, 2003). It could also be functional in the financial condition analysis of the firm which connotes that the investors that acquired the firm stocks will first compute the Tobin's q. Higher value of firm showed that replacement value of the plants and equipment of the firm was minimal and vice versa. By this, the firms with higher Q coefficient were suitable (Jahani, Zalghadr-Nasab & Soofi, 2013). It is computed by adding first the book value of preferred stock, market value of equity, and the book value of debts and at that point dividing the sum with book value of asset (Sweety & Mandeep, 2014).

2.2.2 Average Share Price

Investors, both potential and existing regard value as a vital motive for investing in a particular company. Stock value could be in the form of capital depreciation/ appreciation plus dividends received if any. Stock price is a vital metrics to measure value of firm. Consequently, the values attached to them matters a lot to both the prospective and the existing investors in stock market. There are numerous factors in stock prices determination in the stock market, which ranges from accounting to non-accounting information (Ibrahim & Hussaini, 2015).

The most common way of getting stock returns is through trading in secondary market. That is, book value of equity comprises the accounting base values for owners useful in judging on the true values of equity (Hallefors, 2013). Capital market is considered as a place or arrangement whereby the investees and investors interact. The prices at which shares are being sold is determined by the corporate board attributes which commonly affects the amount of capital a firm could raise from stock market. Stock markets provide link between the company's need in raising funds for business expansion or continuity and those investors wish to invest their surplus resources. Consequently, it is a point for buying and selling of shares, and share price are determined by the supply and demand, which are frequently affected by the firm specific features or/and macroeconomic variable (Adedoyin, 2011).

2.3. Conceptual Framework

The conceptual framework for this study depicts the relationship between the independent variables and the dependent variables. The corporate board attributes are the independent variable proxied by board composition, board diversity, board members educational background and board size while firm value is the dependent variable measured by average share price and Tobin's Q. The conceptual framework shows that the value of the firm depends on corporate board attributes. This is shown in figure 1.

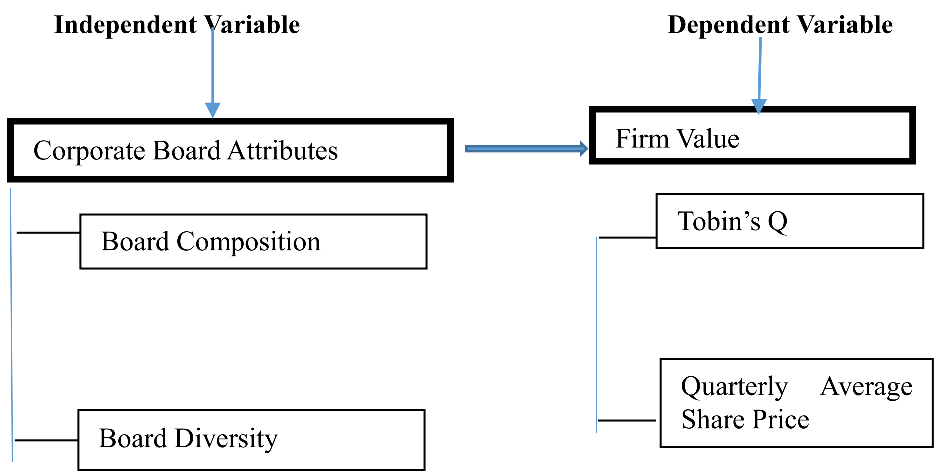

Figure 1: Conceptual Framework showing interactions between the variables
Source: Author's Compilation (2020)

2.4 Theoretical Review

2.4.1 Agency Theory

The first set of scholars to propose the agency theory were Stephen Ross (1972) and Barry M. Mitnick (1973). The economic theory of agency was being proposed by Stephen Ross while the institutional theory of agency was proposed by Barry M. Mitnick independently and roughly concurrently. Agency theory assumed both principal and agent are being driven by self-interest. Pandey (2005), sees owners to be the principal and the managers as the agents. In this kind of relationship, a problem called agency problem is created. According to Bamberg and Klans, (1987) the primary agency relationship in businesses is those between managers and stockholders and between debt stockholders and holders. These relationships are not essentially harmonious; indeed, the conflicts of interest business or agency conflict is between ethnics and corporate governance among other things (Oso & Semiu, 2013).

The agency theory is applicable to the relationship between equity holders and managers as well as to explicit recognitions of the other stakeholders of the company. Jensen and Meckling, (1976) stated that, agency theory makes provision for a framework that links the information disclosure behavior to attributes of corporate governance. Agency theory argued that in the presence of information asymmetry, the agent (the managers) has the tendency to pursue their interest which may affect the shareholders or principal (Ahmadu, Aminu & Tukur, 2005).

2.4.2 Stakeholder Theory

The stakeholder theory was the lee way of agency theory, propounded by Dr. F. Freeman in 1984, he assumed that doing business really require value and that it is that shared sense of the created values that brings together the stakeholders. Freeman believed that "This impels the firms forward and permits it in generating outstanding performances", he offered a traditional definition of stakeholder theory, in which he stipulated that a corporate organisation habitually seek out to providing a balance between interest of its various stakeholders in a bid to make sure that each interest received some level of satisfactions (Mitchel, Wood & Agle, 1997). The narrow view of agency theory dictates the existence of stakeholder theory (Donaldson & Preston, 1995). It is therefore a further development on the concepts of stakeholder and its relationships to any organisation. The stakeholder theory appeared better in elucidating the role of the corporate governance than the agency theory by highlighting numerous constituents: governance, banks, employees, relevant stakeholders (Elkington, 2002).

2.5. Empirical Review

Previous literatures provided an understanding into probably the adoption of certain corporate board attributes as related to market value of firms. Thus, the empirical review of literatures specifically focuses on how these attributes have influenced the value of companies as determined by those studies. Black, Love and Rachinsky, (2006) examined that there are facts that the broad measure of firm level corporate board attributes predicts higher share price in Russia. Nevertheless, almost all prior studies relied on cross sectional data. The study left open the possibility that endogeneity or omitted firm-level variables explained the observed correlation. It addressed the second possibility by offering time-series evidences from Russia for 1999 to date, exploiting a number of accessible governance indices. The study observed an economically vital and statistically strong correlation between governance and market value both in ordinary least square and fixed effect regression with firm index fixed effect. It found enormous differences in coefficient and significant level, including some sign reversals, between OLS and fixed effect specification.

Bernard, Woochan, Hasung and Kyung, (2012) examined how corporate governance affect firms value: Evidence from Korea. It was revealed that higher scores on a Korean Corporate Governance Index (KCGI) predicted higher Tobin's *q*, predominantly through a board structure sub index, with strong evidence of causation due to 1999 board structure reforms. For *chaebol* companies (where we have counterparty identities), this effect was only for companies with positive scores on an Expropriation Risk Index (ERI), which proxied controllers' incentives to tunnel. Higher KCGI also predicted higher sensitivity of profitability of firms to the sector profitability. This effect is again limited to companies with positive ERI. For the capital allocation channel, higher KCGI predicts (a) lower investment and greater sensitivity of investment to profitability; (b) slower sales growth and greater sensitivity of growth to profitability; and (c) higher and more profit-sensitive dividends. They linked these findings to the sub-indices of KCGI, predominantly board structure, which predicts higher Tobin's q.

Kangarlouei, Kavasi and Motavassel, (2013) investigated the effect of outside boards on firms' value in Tehran Stock Exchange (TSE) from the viewpoint of information transaction cost. In the study, a sample of 96 companies quoted in the TSE was selected to be carried out during between 2003 and 2012. Tobin's q ratio was utilized in measuring firm value and bid-ask spread for information transaction cost. Four control variables were used such as the firm's characteristic, age, duality and size. The findings of this study showed that there is not a significant relationship between outside board and firm value. Examining the relationship between the outside boards and firm value, the findings indicated that only in the food and non-metal industries, there is a negative relationship between outside boards and performance of firm. Further, findings do not prove effect of outside board on the information transaction cost.

Ilaboya and Obaretin, (2015) examined board characteristics and firms' performance: Evidence from Nigerian listed firms. The general objective of the study was to examine the relationships between board characteristics and corporate performance. The study used time series data from 166 companies listed on the Nigerian Stock Exchange market between 2005 and 2012 in the food and beverage industry, adopted the log of profit after tax as performance measure. This study observed a positive significant relationship between the independent directors on audit committees and performance of firms in Nigeria. This study suggested the need for a sizeable and competent board and gave emphasis on the need to brace up independence of the audit committee to constantly achieve the control mechanisms and oversight function.

Ammar, (2018) examined gender-diverse boards and financial statement quality: The role of the female directors' attributes, he analyzed the degree to which board gender diversity can influence the quality of financial statement by emphasizing value relevance of female board members attributes for enhancing the quality of financial statements. He focused on a large sample of French companies that belongs to the Corporate Affairs Company (CAC). All shares index listed on Euronext Paris between 2001 and 2010. It was discovered, that board gender diversity is positively associated with financial statements quality. With regards to the female directors' attributes, they found concrete evidences to recommend that audit committee membership, experience of women and financial expertise had significant impacts on the financial statements' quality. Taken together, the findings testify that the effective monitoring skills of gender-diverse boards and the value relevance of the female directors' attributes for making sure financial statements quality.

Manyaga, and Ammar, (2020) reviewed literatures linking firm performance with board diversity. Diversity is important, and it's especially important in the board room of a given firm because it allows for different perspectives and opinions which can impact the decision-making process in the firm, which ultimately can affect the performance of the firm. The study gave a relational guide on how board diversity can greatly impact the achievements of a firm. The study is a theory-based study with the aim to develop a critical approach of defining board diversity and linking that to the performance of the firm. The study outlined different aspects of board diversity while providing a critical look that allowed us to assess the importance of board diversity and its connection to firm performance.

Wang, (2020) examined whether board gender diversity can bring better financial and governance performances, an empirical investigation of cases in Taiwan. Increased research attention on the relationship between gender diversity and the financial and governance performance of firms has produced inconclusive results. This study shaped the gender diversity of corporate boards by defining six compounding elements, which is the major contributor to the literature of gender diversity. This study provided a more complete and precise assessment of the impact of gender diversity on a firm's performance and corporate governance performance from the Taiwanese experience. The evidence in Taiwan suggests that increased board gender diversity does not have a positive effect on financial and governance performance.

Several empirical reviews affirm that corporate board attributes proxied by board composition, board size, board diversity and board members educational background have significant relationships with the firms' value of companies in the healthcare sector. Prior studies conducted in this area used share market value as at the last day of the year to measure firm value, this technique is inadequate because investors react to corporate outcome, which is revealed in the share prices, when the news becomes readily available. Thus, measuring firm value as the share price at the end of the financial year will not give a true picture of the relationship between firm board attributes and firm value. It is on this basis that this research is regarded vital as an effort to fill these literature gaps by taking the Tobin's q and quarterly average price of shares as a proxy of firms' value.

3. DATA AND METHODS

The longitudinal design was adopted because the study is an assessment of more than one independent variable on a given dependent variable. The study covered the 10 healthcare companies that are actively listed on the Nigeria Exchange Group over a period of fourteen years from 2006 to 2019 (see table 1). Data were obtained mainly from the annual report and accounts of the selected quoted companies in Nigeria. Data collected were analyzed using mean, median, standard deviation, correlation and Regression analysis.

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Table 1: List of Healthcare Companies in Nigeria

S/No	Names	Date of Incorporation	Date Listed
1.	Eko Corporation Plc	1991	Invalid Date
2.	Evans Medicals Plc	1954	1979
3.	Fidson Healthcare Plc	1995	2008
4.	GlaxoSmithKline Nigeria Plc	1971	1977
5.	May & Bakers Nigeria Plc	1944	1994
6.	Morison Industries Plc	1955	1978
7.	Neimeth International PharmaceuticalsPlc	1957	1979
8.	Nigeria-German Chemicals Plc	1964	1979
9.	Pharma-DekoPlc	1969	1979
10.	Union Diagnostics & Clinical Services Plc.	1999	2008

Source: Nigeria Exchange Group (NEG), (2020)

3.1. Model Specification

The model is specified to show the interactions between corporate board attributes and firm value. The model is specified by adapting the model specified by Mohammed, (2017). This model is however modified to suit the focus of this study. The broad model is stated thus:

FV = f(CBA) ………………………………………………………..……….. eqn. (i)

Specifically, the model is stated in line with the objectives

$ToQ_{it} = \beta_0 + \beta_1 BC_{it} + \beta_2 BD_{it} + \mathcal{E}_{it}$………………………………………………...eqn. (vi)

Where:

ToQ	=	Tobin's Q
BC	=	Board Composition;
BS	=	Board Size;
β_0	=	Regression Constant;
β_1-β_2	=	Regression Coefficients of the explanatory variables; and
Ɛ	=	Error term
it	=	Firm i at time t.

A priori expectation β□ ,β□, > 0

4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1. Descriptive Statistics

Table; 2 Descriptive Statistics of Variables

	FV	SP	BD	BC
Mean	5.107830	4.902348	0.517838	0.537097
Median	4.993737	4.966215	0.516846	0.589209
Maximum	9.953910	9.955075	0.991675	0.978207
Minimum	0.009398	0.039231	0.000100	0.026530
Std. Dev.	2.960302	2.836626	0.282672	0.281141
Skewness	0.009318	0.098835	-0.093493	-0.287188
Kurtosis	1.739049	2.003298	1.976141	1.812909
Jarque-Bera	7.951728	5.162441	5.416257	8.695474
Probability	0.018763	0.075682	0.066661	0.012936
Sum	612.9396	588.2818	62.14059	64.45166
Sum Sq. Dev.	1042.843	957.5270	9.508505	9.405813

Source: Author's Computation (2020)

4.2 Test of Variables

4.2.1 Panel Unit Root Test

Carrying out unit root test before estimating the model was a necessary step in order to choose the most appropriate estimating technique. Studies have shown that panel data have tendency of been mean variant and therefore, there was need to test the Stationarity condition of these variables. In Table 3, Levin, Lin and Chu test was adopted in confirming the Stationarity condition of these variables. The result of the test showed that all the variables were stationary at level. Therefore, the model estimation can be carried out using panel least square with an option of fixed or random effect.

Table 3 Panel Unit Root Test

Variable	Levin, Lin & Chu t Statistics	P – value	Remarks
FV	32.0140	0.0000	I(0)
BC	17.8415	0.0000	I(0)
SP	21.0761	0.0000	I(0)
BD	23.0499	0.0000	I(0)

Source: Author's Computation (2020)

Table: 4: Hausman Test

Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.075876	2	0.5840

Source: Author's Computation (2020)

Table 5 The influence of Board Composition on the Value of Nigerian Healthcare Companies

Method:	Fixed Effect	Random Effect
BC	1.1958	1.3350
	[1.2123]	[2.4000]*
C	1.7214	1.4210
	[1.0849]	[0.9166]
Observations:	120	120
R-squared:	0.7315	0.7534
Adjusted R-squared	0.6902	0.7193
F-statistic:	23.4860	24.2975
Prob(F-stat):	0.0000	0.0000
Dw	1.7813	1.9481
Hausman Test	1.0758 ($p > 0.05$)	

Source: Authors Computation, 2020

The result in table 5 revealed the effect of board composition on firm value of listed healthcare companies in Nigeria. The explanatory power of the model shown as 75.3% indicates that 75.3% of the variation will be captured by the explanatory variables, while 71.9 % will be captured by the variables after adjusting for the loss in degree of freedom. The f-statistic is 24.297, $p < 0.05$) of the model shows that the model is statistically significant and the coefficients are different from zero.

The individual analysis to show the influence of board composition on firm value using the coefficient, t-statistics and p-value; it shows that Board Composition (BC) has significant relationship with firm value (1.335; t-statistics = 2.400; $p < 0.05$). The implication of this finding is that the composition of the board has a significant influence on the value of the firm. This finding has further affirmed the proposition of the code of corporate governance is posited that a board must comprise of both executive and non-executive members who are expected to oversee the affairs of the company (Obigbemi *et al.* 2016).

The result of the study conducted by Rashid, Lodh and Rudkin (2010) when examining the relationship between independent board composition and firm performance found that independent board directors add value to the performance of firms in Bangladesh. Shah, Butt and Saeed (2011) also affirmed this claim as stated that the composition of board has significant influence on the performance of the firm.

The finding is however different in the study conducted Ibrahim, Rehman & Raoof (2010) where it was found that the composition of board does not have effect on the performance of firms. This position was also upheld in a study conducted by Muchenwa, (2016) to determine the relationship between board composition and firm performance in South African public companies. It was found that in the case of board composition, no significant relationship exists with firm performance. The implication of this finding is that the performance of listed firms in South Africa is not influenced by the composition of their boards.

However, in a study conducted by Rahman, *et al.* (2018) on the efficiency of board composition on firm performance using the listed firms in Bangladesh in focus; it was found that board composition has significant association with firm performance. The study implied that if firms are willing to improve their performance, they should focus on the composition of their board.

Table 6: Result on the Influence of Board Diversity on the Value of Nigerian Healthcare Companies

Method:	**Fixed Effect**	**Random Effect**
BD	0.2095	0.1874
	[0.2241]	[2.2060]**
C	4.1764	4.5022
	[5.9958]**	[6.5344]**
Observations:	120	120
R-squared:	0.4236	0.7109
Adjusted R-Sqaured	0.3952	0.6813
F-statistic:	21.3841	25.6469
Prob(F-stat):	0.0000	0.0000
Hausman test	4.430295 ($p > 0.05$)	

Source: Author's Computation (2020)

The result in table 6, show the joint and individual effect of board diversity on firm value measured by the average market price of listed healthcare companies in Nigeria. The results of the Hausman test ($X^2 = 4.4302$, $p < 0.05$) as shown in table 4, indicates that the random effect will be the most appropriate model. The coefficient of determination of the model as indicated in the R-Square of 0.7109 showed that 71percent of the variation will be captured by the explanatory variables, while 29 percent will be captured by the variables after adjusting for the loss in degree of freedom. The f-statistic of 25.6469; $p < 0.05$) of the model showed that the

model is statistically significant and the coefficients are different from zero.
Considering the individual result to determine the effect of board diversity on average market price, the result in table 6 showed a coefficient of 0.187; t-statistics = 2.2060; $p < 0.05$). The explanation of this result is that Board diversity had a significant positive effect on average share price of the firm; as shown in the p-value less than 0.05 and positive coefficient. The implication of this finding is that board diversity enhances the share value of companies. If the intensity of the board diversity is strong, the firm share price is expected to rise. It is expected that board diversity will ensure integrity, compatibility, independence and availability of governing board.
This finding of this study is corroborated the study conducted by Hoa and Robert (2007) who submitted that gender diversity promotes shareholders' value as the presence of women directors is associated with higher firm value. This submission was also made by Igbekoyi, Adesina and Adegbayibi, (2020) in a study conducted on female directors on board and corporate social performance of listed deposit money banks in Nigeria. The study found that the presence of female directors on board had a statistically significant positive effect on corporate social responsibility expenditure. Although the study focused on corporate social responsibility, it is however established that all concept of performance evaluation is centered on firm value and influences share price.

5. CONCLUSION AND RECOMMENDATIONS

The findings of the study revealed the influence of board composition on firm value using the coefficient, t-statistics and p-value; it shows that Board Composition (BC) has significant relationship with firm value. The implication of this finding is that the composition of the board has a significant influence on the value of the firm. This study therefore showed that board composition has positive effect on the firm's value of listed healthcare companies. It is an indication that good board composition will enhance the value of the firms; Board diversity had a significant positive effect on average share price of the firm; as shown in the p-value less than 0.05 and positive coefficient. The implication of this finding is that board diversity enhances the share value of companies. If the intensity of the board diversity is strong, the firm share price is expected to rise. It shows that firm with good combination of females and males tend to enjoy an increase in market price.

From the analysis of the overall objective of this study, we concluded that corporate attributes of boards will go a long way in determining the effectiveness and efficiency of the firm's operation. Furthermore, an examination of the effect of board diversity indicated that board diversity exhibits statistical relationship with performance of the firms in term of market price. Also, it was obvious that board composition enhances the firm value. Finally, this study concluded that corporate board attributes and firm value of listed Nigerian healthcare companies are positively related.

As such, it is recommended that healthcare companies should constitute their board in such a way as to reflect a sizeable number of non-executive directors; and that there should be a mix of female and male members in the board composition of healthcare companies' boards. These will go a long way to strengthen performance as well as enhancing efficiency.

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