

Effect of Board Knowledge Capital on Value of Listed Companies in Nigeria. The Moderating Role of CEO Financial Expertise

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Abstract: The study investigated the effect of board knowledge capital on market value of listed manufacturing companies in Nigeria and further examined the moderating influence of CEO financial expertise. The study, anchored on the agency theory, adopted the cross-sectional and longitudinal research designs and obtained relevant data from financial statements of sampled manufacturing companies for the period 2012 to 2021. Findings of the study indicated that board educational qualification, and board financial expertise have a negative effect on firm market value. The study further revealed that board work experience and CEO financial expertise have positive effect on market value of listed manufacturing companies. Moreover, it was discovered that CEO financial expertise mitigates the negative effect of board financial expertise on firm market value. The study concludes that board knowledge capital influences the market value of listed manufacturing companies in Nigeria and recommends amongst others that appointment of directors should be based on relevant work experience, and financial expertise rather than educational qualification.

KEYWORDS: Market value, Tobin Q, Educational Qualification, Work Experience, CEO Financial Expertise.

1. Introduction

Board of directors is one of the vital determinants of the internal corporate governance mechanisms and its relationship to corporate performance outcomes has attracted research interest for a long time. Board members, serving as members of boards, bring knowledge capital to their companies. Otuya et al. (2023) explained that directors provide the companies with their intellectual capital in the form of education, connection, or their prior work experience which are considered as intangible assets deployed in management of the firm. The ability to monitor managerial behaviours or identify and seize company opportunities is improved by knowledge capital for directors (Sisodia et al., 2021). In general, empirical research on the link between the board of directors' knowledge capital and firm financial performance demonstrates that human capital has a beneficial impact on a firm's performance in a variety of research situations, including industry, nation, and business. However, the magnitude and the strength of the relationship depend on the conceptualisation of the choice of performance indicators, the data and the analysis methods used (Kanakriyah, 2021; Kontesa et al., 2020; Sidki et al., 2022; Fernandez & Sundaramurthy, 2021; Dorota & Karolina, 2021; Nguyen et al., 2017).

A company's performance can be assessed through a number of approaches such as profitability, liquidity, growth, market share, return on investment and other long term accounting appraisal methods. However, Otuya

and Osiegbu (2020) argue that performance should not only be seen from how much profit is generated each year by assessing how much is the accounting profit earned, but also has to look at the company's ability to get future cash flows, future and investment opportunities by looking at the long-term performance of the company. Using firm valuation approach helps to determine the behavior of the securities or asset market, which reflects external perceptions and expectations of the organization's future or long-term value. Tobin's Q is one of the indices used to measure market performance or long-term firm value (Gyapong et al., 2016). Tobin Q as a performance measure enables stakeholders to easily know whether a particular business, industry or market is overvalued or undervalued.

This study is motivated by three key arguments. First, it adds to the literature by assessing a comprehensive understanding of the link between knowledge capital and market value of firms due to lack of consensus in the literature. Second, the study further explores the fact that the agency theory can be utilized to explain the association between board knowledge capital and market value. Third, prior studies in Nigeria have not examined in the context of CEO financial expertise, the extent to which it moderates the effect of board financial experience on market value of firms. It is therefore imperative to investigate the subject matter in the Nigeria context to fill the gap and thus extend the existing literature.

The remaining parts of the paper are organized as follows: section two provides the review of related literature, theoretical framework, and hypothesis development. Section three gives details of the empirical method adopted for the study and include the design and data, model specification, and measurement of the variables. Section four presents the data analysis and discussion of findings while the last section concludes the study.

2. Literature Review and Hypotheses Development

Firm Value

Firm value is a benchmark for a company's value that measures shareholder wealth. It is the value that shareholders have in the company and it can also be referred to as shareholders' equity. As the company's market value rises, the wealth of shareholders increases (Otuya et al., 2022). Firm value is the economic measure of an organisational performance indicating the equivalent value of the company, according to Li, et al. (2014). The desire of shareholders is increasing firm value because it shows higher shareholders' prosperity. The wealth of shareholders and company is represented by stock price as a reflection of investment decision, finance, and assets management. The objective of the company is maximizing the firm value. The firm value also becomes the main focus of the investors.

Price Earnings Ratio, Price/Cash Flow Ratio, Price to Book Value Ratio and Tobin Q etc make up several valuation techniques in extant literature. However, the Tobin Q is one of the mostly adopted measures of firm value in previous researches (Neralla, 2022; Dorota & Karolina; 2021; Ghassan & Fathia, 2022; Otuya & Omoye, 2021). The link between a physical asset's intrinsic value and its market valuation is expressed by the Tobin Q ratio. This ratio makes it simple to determine whether a specific company, sector, or market is overpriced or undervalued. Additionally, it expresses the difference between a company's market value and its replacement cost. For instance, a company's stock is said to be overvalued if the assets' replacement costs are less expensive than the stock. Markets are overvalued when their Tobin Q ratio is greater than one, and undervalued when it is less than one.

Board Knowledge Capital

The original goal of the human capital theory was to predict how much money employees will earn from their investments in human capital (Unger et al., 2011). Knowledge, experience, and skills are the three main components of human capital (Harris & Helfat, 1997). Researchers have created a wide range of variables to act as proxies for knowledge capital because these concepts are largely unobservable in practise (Otuya et al., 2023; Unger et al., 2011). These factors include formal education, training, employment history, start-up and ownership experience, parent's background, abilities, and expertise, among others.

Board knowledge capital is defined by Ernowati et al. (2018) as the resources that are ingrained in people. It is acquired over time as a result of personal investments made with consideration for other people and can be applied in subsequent circumstances (Finkelstein & Hambrick, 1996). Since knowledge capital is unique to the

person who possesses it and cannot be imitated by others, it serves as a source of competitiveness and generates income for its owners. The resource dependence theory, first proposed by Pfeffer in 1973 holds that a firm is an open social entity that is closely connected to its environment and that the board of directors is a key player in establishing connections between the firm and social resources like human, informational, and financial resources. In particular, the board's role involves not only keeping an eye on managers' actions but also providing the crucial resources required to improve firm performance and/or securing such resources through linkages to the outside world (Hillman et al., 2000). In other words, in addition to its role as a monitor, the board also provides resources. According to Hillman and Dalziel (2003), board capital of which the human capital of directors is one of the most significant components is the capacity of boards to deliver crucial resources to companies. Different proxies have been used to measure board knowledge capital. As an additional proxy for board knowledge capital, Francis et al. (2015) employ professorship at universities in addition to education, experience, or tenure to measure board knowledge capital of outside directors.

Board Educational Qualification and Firm Value

Educational qualification is one of the proxies of knowledge capital of the firm. Extant literature has documented how it impacts on corporate performance outcomes. Sidki et al. (2022), for instance, looked at the effect of board member educational diversity utilising the supervisory board members' level of business acumen and their influence on the financial performance of 58 German state-owned utility businesses from 2011 to 2016. The biographical backgrounds of 3350 supervisory board members were assembled using OLS regression to determine their educational backgrounds, management experience, and industry experience. The empirical findings indicate that none of the competency dimensions have an impact on the profitability of businesses.

Machado and Sonza (2021) examined the effects of board members with foreign education on the accounting and market performance of companies listed on the Brazilian Stock Exchange in another empirical study. On data collected from 230 companies between 2010 and 2016, the study performed unbalanced panel data regressions using the Systemic Generalised Method of Moments. The results suggest that market performance declines as the proportion of board members with foreign-trained academic and professional qualifications rises. Also, Kanakriyah (2021) in a Jordanian study examined the effect of board of directors' qualities on firm performance. Advanced education was taken as one of the proxies for board knowledge capital and regressed against return on assets for 425 observations collected from 85 industrial and service organizations for the study sample. Results suggested that advance education of board of directors had a detrimental impact on performance of enterprises. Kontesa (2020) in another study examined board capital effect on firm performance: evidence from Indonesia using a sample of 252 Indonesian listed companies between 2011 and 2017. The findings showed that educational qualification of board members has no bearing on value of the firm and argued that the aptitude and competence of the directors play a key role in the firm's capacity to accomplish its goal. Against this backdrop, we frame our first hypothesis that board educational qualification has no significant positive effect on market value of the firm.

Board Experience and Firm Value

Board experience is also factor that has generated intense debate in the extant literature. A review shows a conflicting outcome regarding how board related experiences influence corporate performance of firms. Fernandez and Sundaramurthy (2021) investigated potential scenarios that could push board experience by adopting knowledge from existing board leadership elements. The study's findings exemplified the need for care when using experience as a panacea for board effectiveness. Neralla (2022) in another study of Indian corporations based his study analysis on six-year financial data from firms listed on the Bombay Stock Exchange (BSE) for 2014–2015 and 2019–2020. The study's findings, a board experience improves a company's performance as assessed by Tobin's Q which strengthens the decision-making process. Moreover, Akram et al. (2020) adopted the the resource-based view of board heterogeneity as the restricted literature accounts for such an integrated phenomenon of theories. Data for 2010 – 2016 for 375 firms in non-financial sector of the Pakistan Stock Exchange was used for the analysis. The study findings showed that board experience had a

positive influence on performance of firms. Going from the above, we hypothesise a positive effect of board experience on market value of firms.

Board Financial Expertise and Firm Value

Understanding and analysing financial accounts, accounting concepts, and internal controls are skills in finance. It is a specialised skill or knowledge gained by education, training, or experience in the finance sector. In the language of corporate governance, financial literacy is expected of board members, particularly the audit committee members. There are several results about corporate performance and board financial expertise. Dorota and Karolina (2021) looked at the effect of having foreign specialists on a corporate board on the crucial aspect of timely financial reporting. The population of Polish nonfinancial enterprises between 2010 and 2015 was used to choose the sample. The study found that the presence of foreign experts reduces the amount of time required to deliver financial reports using the generalised method of moments with fixed effects. Similar to this, Saleh et al. (2020) look into how CEO traits and the number of board positions affect the profitability of non-financial enterprises listed on the Palestine Security Exchange (PSE) between 2009 and 2016. The findings, which are based on 200 observations, indicate no connection between financial performance and board experience. Nguyen et al. (2017) also looked into how directors' human capital affected the financial success of Vietnamese-listed companies. A panel data set with 315 firm-year observations was examined using the dynamic system generalised method of moments (system GMM) estimator across a four-year period from 2008 to 2011. According to the study' findings, a firm's financial performance appears to be positively impacted by the financial expertise of its directors, which is consistent with the resource dependence theory. From the foregoing, we formulate our third hypothesis, which holds that the market value of a company is positively impacted by board financial expertise.

CEO Financial Expertise and Firm Value

The Chief Executive Officer (CEO) is the highest ranking officer and is responsible for the overall success of the organization. The CEO is expected to be financially literate since he tends to financial matters and operations of the business. Studies on the link between CEO financial expertise and firm value have also produced conflicting results. For instance, Ghassan & Fathia (2022) looked into the impact of corporate governance procedures and business performance on CEO disclosures of intellectual capital and found that CEO traits like age, education, and dual roles have an impact on a company's value, and institutional ownership determines how much information is disclosed.

Hendrawaty (2020) examined in Indonesia the relationship between CEO financial literacy and business financial performance. The study makes an effort to assess the effect of CEO financial literacy on corporate financial performance of SMEs by taking into account the mediating role of sources of investment decisions, such as accounting information, advocate information, and neutral information. Confirmatory factors analysis and structural equation modelling approach were used in the study to examine the effects of incorporated variables on corporate financial performance. According to the study's findings, corporate financial performance is significantly and favourably influenced by the CEO's financial literacy.

Saidu and Baba (2020) investigated CEO experience and firm performance in Nigerian financial sector. Regression analysis was performed on balanced panel data spanning six years, from 2011 to 2016. When quantifying CEO experience, variables including the CEO's tenure and number of board appointments were taken into account. The findings suggest that CEO tenure has a detrimental impact on company performance. According to the study's conclusion, a CEO who holds a position for a long time needs to be closely watched in order to ensure that they are using their expertise to advance organisational goals rather than their own personal ones. In view of the foregoing, we hypothesize a positive effect of CEO financial expertise on market value of firms.

Board Financial Expertise, Firm Value and CEO Financial Expertise

The CEO occupies a very influential position in a company hence his actions or inactions to a large extent affect the performance of the company. Although studies investigating the moderating influence of CEO financial experience are scarce in developing economies, Ali et al. (2020) studied CEO attributes, investment decisions, and firm performance in Pakistan. The study looks at how a CEO might improve a company's success by moderating the impact of investment choices. Using fixed-effects panel regression, CEO's characteristics including age and expertise were all positively correlated with business success in general and capital investment decisions in particular. In addition with rare exceptions that support the theoretical implications of upper echelons theory in an emerging economy environment, capital investment decisions moderate the relationship between CEO qualities and business performance in part and considerably.

Ghardallou et al. (2020) examined how a CEO's characteristics affect firm performance in Saudi Arabia. It focused on how the financial performance of Saudi enterprises is impacted by the education, work experience, and tenure of CEOs. Using a panel model and the GMM estimator, the study developed three distinct equations while adhering to the prior studies models. Results demonstrate that the CEOs background does matter. Businesses with CEOs that hold degrees in business administration, economics, finance, or accounting will do significantly better. Similar to this, when the CEO obtains a postgraduate degree, such as an MBA, master's, or PhD, stock performance improves. Additionally, the findings show that executives with experience in a similar industry do have a beneficial impact on the operation of the company. Finally, research demonstrates that long-serving CEOs boost business performance.

Le and Kroll (2017) examined CEO international experience on strategic change and firm performance. The study found that time spent overseas had a favorable impact on strategic change and business performance, whereas the number of countries and cultural distance positively mitigated these connections using a sample of 387 new CEOs. Following from the above, we frame a hypothesis that CEO financial expertise strengthens the positive relationship between board financial expertise and market value of the firm.

Theoretical Framework

Considering the aim of the study which is to examine board knowledge capital as a determinant of firm market value in Nigeria, the agency theory is considered appropriate for the study. The basic theme of the agency theory as espoused by Jensen and Meckling (1976) is the conflict of interest that arises as a result of the separation of ownership (principals) and management (agents) of the company with an emphasis on how to mitigate the agency conflicts. In aligning the shareholders' and executive management interests and ensuring that the company is managed in the best interests of the principals, the agency theory suggests governance mechanisms such as independent corporate board members, strong ownership control, managerial ownership, and various board committees to be in place (Panda & Leepsa, 2017; Otuya & Akpoyibo, 2022).

Board knowledge capital, according to Hilman and Daziel (2003), is the capacity of a board to make strategic decisions. As a scarce resource for businesses, knowledge capital enables directors to assist management by giving advice and guidance. The agency theory further explains that knowledge capital is a strategic tool of directors to be chosen by owners to run the firms. This knowledge capital may distinguish the directors from their peers, and this benefits the owners by having better resources and low agency costs.

3. Methodology

Design and Data

This study adopted both cross-sectional and longitudinal research designs. The cross-sectional design is appropriate since it entails gathering data on multiple cases across different firms. On the other hand, the longitudinal design facilitates measurement of corporate governance and board knowledge capital trends from data collected. As of 31st December 2021, there were 58 listed manufacturing companies on the Nigeria Exchange Group (NGX). The sampling technique employed in this study is the sampling filtering technique since firms were included in the sample on certain selection criteria. The selection criteria include that (i) firms must be listed on the NGX market over the 10 year period starting from year 2012 to year 2021; (ii) there is access to

their annual financial reports within the period; (iii) Manufacturing firms that joined the NGX after year 2012 were excluded from the sample. The exclusion of such firms will allow for homogeneity of period scope which help the research obtain a balanced panel data. The final sample size after the filtering was 42 companies giving a total of 420 year end observations. Panel data collected were subjected to analysis through descriptive, correlation and linear regression analyses.

Model Specification

Based on the theoretical literature and earlier empirical studies, the model by Mayowa et al. (2021) was modified and adopted to capture the relationship between board knowledge capital and firm value. The model is expressed as follows:

$$FMV = f(BEDUQ, BWORKX, BFINX, CEOFX) \dots \dots \dots (1)$$

This can be mathematically expressed as:

$$FMV_{it} = \theta_0 + \theta_1 BEDUQ_{it} + \theta_2 BWORKK_{it} + B_3 BFINX_{it} + B_4 CEOFX_{it} + \mu_{it} \dots \dots \dots (2)$$

Introducing the moderating variable into equation (2)

$$FMV_{it} = \theta_0 + \theta_1 BEDUQ_{it} + \theta_2 BWORKK_{it} + B_3 BFINX_{it} + B_4 CEOFX_{it} + B_5 (BFINX_{it} \times CEOFX_{it}) + \mu_{it} \dots \dots \dots (3)$$

Where:

- FMV = Firm Market Value (Tobin Q)
- BEDUQ = Board Educational Qualification
- BWORKX = Board Work Experience
- BFINX = Board Financial Expertise
- CEOFX = CEO Financial Expertise
- β_0 = Constant
- $\beta_1 - \beta_5$ = Slope Coefficient
- μ = Stochastic disturbance
- i = ith company
- t = time period

Measurement of Variables

Table 1: Operationalization of the Variables

S/N	Variables	Measurements	Sources	Apriori Sign
Dependent Variable				
1	Firm Market Value (Tobin Q)	Computed as total asset value of the company divided by its market value	Mayow et al. (2022)	+
Independent variables				
1	Board of Directors' Educational Qualification	Computed as the number of directors with foreign qualification.	Mayowa et al. (2021)	+
2	Board of Directors' Work Experience	Computed as the total number of active years a director have earned on the board	Naseemnet al (2017)	+

3	Board of Directors Financial Expertise	Computed as the total number of directors that have gained any formal or informal financial education	Mayowa et al. (2021)	+
4	CEO Financial Expertise	Computed as dummy which takes the value of 1" if the CEO have gained any formal or informal financial education other wise 0	Olayiwole (2018)	+

Source: Author's Compilation (2023)

4. Estimation Results and Discussion of Findings

Descriptive Statistics Analysis

In the descriptive statistics, each variable is examined based on its mean, standard deviation, maximum and minimum values. Table 2 displays the results obtained from the descriptive statistics.

Table 2 Descriptive Statistics Result

Variable	Obs	Mean	Std. Dev.	Min	Max
FMV	420	1.515714	1.425088	.12	12.69
BEDUQ	420	3.501433	2.268759	0	10
BWORKX	420	3.137143	1.366208	0	11
BFINX	420	2.654286	1.614022	0	12
CEOFX	420	.4771429	.5001923	0	1

Source: Authors' Computation

Table 2 lists the independent and dependent variables together with their maximum and minimum values, standard deviation, and arithmetic mean for the time period under consideration. The table shows that the mean market value (Tobin Q), which is a dependent variable and a measure of firm market value, is 1.515714, with a standard deviation of 1.425088. This result suggests that the manufacturing company has a substantial growth potential and that, on average, future earnings will exceed current earnings. Board educational qualification (BEDUQ), one of the study's independent variables, had a mean of 3.501433 and a standard deviation of 2.268759. This implies that on the average, about 3 members of the board of the firms under study had higher educational qualification during the period under study. The result from the descriptive statistics also shows that the mean of board work experience (BWORKX) is 3.137143 and a standard deviation of 1.366208. This suggests that, on average, three members of the boards of directors of the companies under consideration have experience in comparable positions with other businesses. The outcome indicates that the board financial expertise (BFINX) variable has a mean of 2.654286 and a standard deviation of 1.614822. The conclusion suggests that, on average, during the study period, at least three board members of the firms under investigation held professional certifications in the fields of finance and accounting. The average CEO financial experience (CEOFX) score for the companies under research was 0.477142, with a standard deviation of 0.5001923, meaning that 48% of the CEOs were generally certified professionals in accounting and finance-related fields.

Regression Results

The regression results of the panel data estimation are reported in Table 3.

Table 3: Tobin Q Regression Analysis Result

	TOBQ Model (Pool OLS)	TOBQ Model (FIXED Effect)	TOBQ Model (RANDOM Effect)	TOBQ Model (LSDV Regression)
CONS.	-3.644 {0.000} ***	-11.415 {0.000} ***	-6.206 {0.000} ***	-11.013 {0.000} ***
BEDUQ	-0.082 {0.065}	-0.114 {0.052} **	-0.118 {0.026} **	-0.114 {0.052} **
BWORKX	-0.078 {0.155}	0.103 {0.301}	-0.029 {0.728}	0.103 {0.301}
BFINX	-0.177 {0.000} ***	-0.259 {0.001}	-0.229 {0.001} **	-0.259 {0.001}
CEOFX	0.296 {0.017} **	0.198 {0.162}	0.156 {0.250}	0.198 {0.162}
BFINX x CEOFX	0.0523 {0.000} ***	0.5128 {0.000} ***	0.358 {0.000} ***	0.5128 {0.000} ***
F-stat/Wald Stat	40.81 {0.0000} ***	25.98 {0.0000} ***	151.74 {0.0000} ***	21.63 {0.0000} ***
R- Squared	0.4173	0.3361	0.3150	0.7374
VIF Test	1.90			
Heteroscedasticity	307.60 {0.0000} ***			
PRESENCE OF FE/RE		YES {11.05 (0.0000)}	YES {290.20 (0.0000)}	
Hausman Test		30.31 (0.0000) ***		

Note: (1) bracket {} are p-values; (2) **, ***, implies statistical significance at 5% and 1% levels respectively

Table 3 represent the results obtained from the manufacturing firms sample regression for this study. As observed from the table, the pool ordinary least square regression analysis result revealed an R-squared value of 0.4173 which indicate that about 42% of the systematic variations in organizational performance measured in terms of Tobin Q for manufacturing firms in Nigeria is jointly explained by the independent and moderating variables in the model. Further, the F-statistic value of 40.81 and its associated p-value of 0.0000 shows that the specified model is statistically significant at 1% level. Specifically, as indicated in the lower part of table, a mean VIF value of 1.90 shows that VIF is within the benchmark value of 10, to indicate the absence of multicollinearity. The test for heteroscedasticity test is significant at 1% level {307.60 [0.0000]} indicating that the assumption of homoscedasticity has been violated. Therefore, the pooled ordinary least square regression model is re-specified to control for this violation by employing the panel fixed and random effect regression as recommended by Greene, (2003).

A cursory look at both the F-statistic and Wald-statistic values {25.98 (0.0000) and 151.74 (0.0000)} for fixed and random effect regression models shows that both models are statistically significant at 1% with coefficient of determination (R-squared), values of 0.3361 and 0.3150 (fixed and random effect respectively). The R squared indicate that about 34% and 32% of the systematic changes in market value is jointly explained by the independent variables. In this study the p-value of the Hausman specification test [0.0000] reveals a 1% level of statistical significance indicating the adoption of the fixed effect panel regression model over the random effect regression model. However, the fixed effect model in itself presented a problem of time and cross-sectional effect leading to unobserved heterogeneity issues. Hence, the Least Square Dummy Variable (LSDV) regression analysis technique was employed to control for the unobserved heterogeneity and consequently employed to test the hypothesis of this study.

Discussion of Regression Results

The results of data analyzed and hypotheses testing are discussed thus:

The results obtained from the least square dummy variable (LSDV) regression model revealed board educational qualification [coef. = -0.114 (0.052)] has a significant negative effect on market value of the firm. The result implies that board educational qualification significantly decreases Tobin Q. The result did not meet our *a priori* expectation. The result is however consistent with Machado and Sonza (2021) and Kanakriyah (2021).

Second, board work experience [coef. = 0.103 (0.301)] has a negligibly beneficial impact on the market value of listed manufacturing firms in Nigeria, according to the results of the least square dummy variable regression model. This outcome is as expected. The positive outcome shows that directors with more work experience bring to the board significant information, skills, and industry expertise, which has a favourable impact on business performance. The findings support the arguments made by Fernandez and Sundaramurthy (2021) and Neralla (2022), who claimed that experienced directors have valuable tacit knowledge, networks, and abilities that can have a favourable impact on strategic decision-making and business outcomes.

The regression result on board financial expertise [coef. = -0.259 (0.001)] has a significant negative effect on firm market value. The result did not meet our expectation as we expected board financial expertise to have a positive influence on the market value of the firm. This outcome is seen to be consistent with those of Dorota & Karolina (2021), Saleh et al. (2020), and Nguyen et al. (2017).

On the variable of CEO financial expertise [coef. = 0.198 (0.162)] shows an insignificant effect on firm market value. The result is positive but non-significant. The positive outcome on firm market value is consistent with the findings of Ghassan and Fathia (2022) and Saidu and Baba (2020) who document significantly higher firm values when chief executives with accounting and finance background mount leadership of listed firms.

As regards the moderating effect of CEO financial expertise on the relationship between board financial expertise and market value of the firm, the regression result shows a positive association and statistically significant at 5% $B_5 (BFINX_{it} \times CEOFXit) = 0.5128, p=0.0000$. The result gives enough evidence to accept the hypothesis that CEO financial expertise reduces the negative effect of board financial expertise on market value of firms. This position meets our *a priori* expectation and agrees with study by Ghardallou et al. (2020). This implies that CEOs with higher financial expertise will complement the financial expertise of other board members to improve corporate decision making and by extension firm value.

5. Conclusion and Recommendations

The study has investigated the effect of board knowledge capital on market value of listed manufacturing firms in Nigeria. The study adopted the cross-sectional and longitudinal research designs and obtained relevant data from financial statements of sampled manufacturing companies for the period 2012 to 2021. The analysis indicated that board educational qualification, and board financial expertise have a negative effect on firm market value. Findings of the study further revealed that board work experience and CEO financial expertise have positive effect on market value of listed manufacturing companies in Nigeria. Moreover, it was discovered that CEO financial expertise mitigates the negative effect of board financial expertise on firm market value. The study concludes that board knowledge capital influences the market value of listed manufacturing companies in Nigeria.

Arising from the findings, the study made the following recommendations:

Appointment of directors should be by work experience rather than academic and educational qualification. To guarantee that board members can effectively apply their financial knowledge, management policies should be focused on ensuring that they receive training, mentorship programmes, and assistance. Appointment of CEOs should be based on both educational qualification, experience and financial expertise. This is exemplified in this study where the CEO financial expertise positively affects firm value and further reduces the negative influence of board financial literacy on market value of the firm.

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