

# INTELLECTUAL CAPITAL AND FIRM PERFORMANCE OF LISTED FIRMS IN NIGERIA: MODERATING ROLE OF CORPORATE GOVERNANCE

Adesanmi Timothy ADEGBAYIBI

Department of Accounting, Faculty of Social and Management Sciences, Adekunle  
Ajasin University.

adesanmi.adegbayibi@aau.edu.ng

## *Abstract*

*The low performance of Nigerian firms despite investment in intellectual capital is a major concern. While studies have shown that corporate governance practices strengthens the subsisting relationship between investment in intellectual capital and performance in the developed economies, this moderating effect in Nigeria is yet to be adequately explored as research focus is limited to possible effects of intellectual capital and performance. It is against this background, this study investigated the moderating role of corporate governance on the relationship between intellectual capital and performance of listed non-financial companies in Nigeria. The study adopted ex-post facto research design, and data were drawn from the audited annual reports of fifty (50) listed non-financial firms for a period of 2007 to 2017. Multiple regression techniques were employed to test the relationship among the variables. The results of the study revealed that both intellectual capital and corporate governance drive financial performance as the relationship is found significant in all components. The study concluded that corporate governance moderated the effect of investment in intellectual capital on financial performance. The study recommends that Board of directors should adopt measurable corporate governance mechanism which strengthens and helps in investment strategy that increases and improves performance. Also, there is need to entrench corporate governance as a control strategy and impetus towards attaining organization's goals.*

**Keywords:** Corporate Governance, Firms' Performance Intellectual Capital, Non-financial Firm

## **Introduction**

The changeover to digital economy has brought home the idea of adding intellectual capital to the measurement of organizational performance (Marr, Schiuma & Neely, 2004). For any organisation to optimally utilise its human resources, emphasis must be given to the workability of intellectual capital in the organisation as a critical factor for a competitive edge and its contribution to the organisational result. Intellectual capital gained impetus because of groundbreaking study of Pulic (1998) measuring the nexus of intellectual capital and performance of companies.

The recent trends in the world as it relates to the development of the knowledge-based economy, as well as economic events (such as economic crisis, constant innovation and so on) is a pointer to the need for investment in intellectual capital and such investment in Nigeria and international community have made competition intense among both local and multinational business corporations. The Nigeria Petroleum Development Company (NPDC), Exxon Mobil, Access Bank Plc., Unilever Plc, Chevron Plc., are the leading firms. For instance, over ₦40 million was invested in 2008 in the training of Unilever Plc's employees. Exxon's main business unit spent \$117 million in workforce preparation in 2014 to retain its strategic edge in the industry (ExxonMobil Corporate Citizenship Report, 2014).

The global economic recession has a ripple effect on the performance of Nigerian firms despite investment in intellectual capital. This has become a major concern for investors, stakeholders, accounting professionals. In spite of the essentiality of intellectual capital, extant literature shows that the results from empirical research remained contradictory and inconsistent. For example, studies such as Chen, Cheng & Hwang (2005); Clarke, Tan, Plowman & Hancock, (2007); Seng & Whiting, (2011); Alipour (2012) report that intellectual capital significantly affects firm efficiency whereas Chan (2009); Firer & Williams, (2003) among others do not at all report any significant relationship.

Extant literature has proved that investing in human capital is not a guarantee of high performance except corporate governance mechanism is put in place to ensure efficient and effective management of organization's resources. Board of directors must buckle up in his oversight function to ensure effective decision making and management of economic resources which is key and crucial to the attainment of organizational goal. It is clear in the literature the significant role that can be played by corporate governance in driving economic value and enhancing performance of economic units.

Today, the relationship between investment decisions, either physical or intellectual capital, and performance is seen to be strengthened with the presence of corporate governance. The adoption of measurable corporate governance mechanism helps in investment strategy that increases and improves performance. There is ongoing campaign for the need to entrench corporate governance as a control strategy and impetus towards attaining organization's goals. Studies have confirmed a structural shift in corporate governance and high level of compliance among firms in Nigeria (Akinkoye and Olasanmi, 2014).

Studies have also shown a common ground between financial performance and the corporate governance, While in Africa most especially in Nigeria; there are few empirical evidences on corporate governance activities. In addition, some prior studies would either investigate the role or consequence of intellectual capital on financial performance whilst some looked at the influence of corporate governance activities on corporate performance. Meanwhile, this study combined intellectual capital with corporate governance as a moderating variable either influencing financial performance positively or negatively relating it to non-financial companies in Nigeria.

Adegbite (2012) made available certain evidence to back-up the view that a nation's peculiar institutional arrangements influence its principal model and style of corporate governance regulations. Hence, scarcity of empirical corporate governance studies in Africa as a whole and Nigeria in particular is a major concern. There seems to be very few studies in Nigeria on the moderating role of corporate governance on the link between intellectual capital and financial performance. Some other studies conducted in Nigeria only examined the impact of individual corporate governance variable on performances (e.g. Adetunji & Olawoye, 2009; Adegbite, 2012; Akinkoye & Olasanmi, 2014). The clashing evidences may partially be described by the fact that previous studies suffered from procedural problems, less unrepresentative size sample, and untenable choices for the proxy of company's performance and inapt time frames.

Most studies (Anuonye, 2015; Onyekwelu *et. al.*, 2017; Nwaiwu & Nwaekpe, 2018) looked at the influence of intellectual capital on firms' performance neglecting the corporate governance variables such as board characteristics and the ownership structure despite its moderating roles as enacted by the code of corporate governance. This study introduces a moderating variable of corporate governance mechanisms such as audit committee size, board size, proportion of attendance in meeting and proportion of independent directors in audit and risk committee which has not been tested before in a Nigerian context in relation to intellectual capital and financial performances. The interplay or the interaction among the

concerned variables particularly the moderating role played by corporate governance is yet to be adequately examined, hence the need for this study.

## **Literature Review**

### **Conceptual Review**

#### **Intellectual Capital**

Intellectual capital is the knowledge-based assets which the organization focuses on to increase its efficiency of the financial performance. It is further categorized into human, structural and customer capital. Human capital is the mixture of innate legacy, education, experience and attitude about life and business, structural capital in the form of managerial procedures is the serious connection which allow intellectual capital to be dignified organization level while customer or relational capital is the combination of assets used by business in relating with its past, present and potential customers, with its network of suppliers or research and development partners, in addition to the perceptions and views that they hold about the company (Brannstrom & Giuliani, 2009).

Performance of firms is ultimately important to investors, stakeholders and the economy at large. Investors cherish their returns on investment and well-performing firms enjoy stakeholders' loyalty (Selvam, Gayathri & Vansanth, 2016).

#### **Corporate Governance**

According to OECD (2004), it is the relationship that exists between the owners, management and other relevant stakeholders of a firm, which influences the formation of its objectives and how performance is measured. Bezawada (2020) defined corporate governance as the organizational structure that seeks to enhance the achievement of corporate objectives.

#### **Theoretical Review**

The Knowledge-Based theory underpins this study. The Knowledge-Based theory was propounded by Stalk in 1992. The theory assumes that the competitive ability of any firm is based on capabilities and competencies which are driven by knowledge. According to Marr and Schiuma (2004), organizational capabilities are based on knowledge and since knowledge is a resource that forms the foundation of company capabilities, the ownership of specific knowledge provides organization with specific capabilities. They noted that the possession of knowledge enables specific capabilities and hence, only the management of the knowledge will help an organization identify, maintain and refresh its competencies in the short and long run (Surdarsanam et. al., 2013). This study can therefore be related to this theory as the knowledge acquired by firms are the intellectual capital and the firms can enhance their performance based on the knowledge by harnessing its Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CCE).

#### **Empirical Review**

Aftab, Khurshid and Yousaf (2019) investigated connection between intellectual capital and market value of 79 quoted non-financial companies spanning from 2010 to 2015 using regression analysis techniques. Value Added Intellectual Coefficient (VAIC) model was used for the computation of intellectual capital. Tobin's Q was employed as a proxy for firm value. Managerial ownership was tested as a moderator. Findings revealed positive significant relationship between intellectual capital and firm value while managerial ownership moderates the relationship between intellectual capital and firm value negatively.

Olayiwola (2018) studied the influence of corporate governance on the performance of 10 Nigerian quoted companies from year 2010 to 2016 using regression analysis

techniques. The corporate governance was proxied with board size, audit committee size and board composition while performance was proxied with net profit margin. The study revealed that board size had a strong negative relationship with net profit margin, board composition had a significant positive correlation with net profit margin, audit committee size had an insignificant correlation with net profit margin and board size, audit group size and composition of board significantly influence net profit margin. Study concluded that smaller board size increase performance and the board composition ought to consist more of the non-executive directors and constant review of audit committee.

Aslam *et al.* (2018) assessed effect of corporate governance and intellectual capital on firm's performance and corporate social responsibility disclosures of Australian Stock Exchange (ASX) listed companies. Their study employed Partial Least Square Structural Equation Modeling (PLS-SEM) method for 10 different sectors with 26 industry group in year 2014. Findings showed Australian companies are more environmental-friendly because of sound corporate governance practiced. Also, results revealed that both corporate governance and intellectual capital are related with improved firms' financial performance of companies.

Shahveisi and Khairollahi (2017) undertook an empirical research on the connection among different ownership types on intellectual capital of 100 quoted companies in Iran from year 2005 to 2009 using both correlation and multiple regression analysis techniques. Their results showed strong connection among institutional, concentration ownership and intellectual capital performance.

Obigbemi, Mukoro, Adetula and Owolabi (2016) looked at the role of corporate governance mechanisms on the performance of listed 137 firms in Nigeria from year 2003 to 2010 using regression analysis techniques. Their study used Return on Asset, board characteristics, management ownership, block ownership, duality of Chairman and Chief Executive Officer post were used as proxy for corporate governance mechanisms. Findings revealed strong connection among board characteristics and management ownership with performance of companies in Nigeria with negative relationship among block ownership, Chief Executive Officer post and performance of companies in Nigeria.

Sakariyahu and Jimoh (2016) studied the influence of corporate governance practices on the performance of 12 quoted firms on the ASeM in Nigeria for the period of 2009 to 2015 using regression analysis techniques. The findings revealed strong effect of corporate governance variables on performance of companies listed on the ASEM at 5% level of significance. This study concluded that corporate governance practices are an essential factor that determines firms' performance. Their study recommended that organizations must strictly comply with corporate governance principles; maintain moderate board size and ensure independence of audit committee as prescribed by international standards. Strict adherence to Securities and Exchange Commission code of governance is also vital as this would help instil boost performance of the firms listed on ASeM and generally improve the image of the Nigerian business environment.

Basyith (2016) investigated the influence of corporate governance and intellectual capital on firm performance of 120 firms on Indonesian listed companies from 2009 to 2013. His study adopted non-linear Generalized Method of Moments (GMM) and Standard Least Square method. Findings revealed strong influence of corporate governance on firm performance. Pongpearchan (2016) investigated influence of intellectual capital on company performance of 925 businesses in Thailand during the year 2015. The study employed a structured questionnaire with stratified random sampling method using five-point Likert's scale. Regression analysis technique was employed and findings showed significant influence of organisation capital on value creation.

## Methodology

The study adopted longitudinal research design. This was because it accommodates a significant pool of data collection and increases the precision of the estimate obtained from the sample, due to the large number of observations from the panel data. Financial Performance was measured using return on asset and return on equity while intellectual capital was proxy by human capital, structural capital and customer capital. Also, corporate governances were proxies by Audit committee size, board size, proportion of attendance in meeting, audit committee meeting, proportion of independent directors in the audit and risk committee and log of managerial ownership structure. The study population comprised 80 listed non-financial companies on Nigerian Stock Exchange (NSE). Using purposive sampling, the sample size of fifty (50) listed non-financial firms was selected and data were extracted from their annual audited accounts and reported between 2007 and 2017. The study employed multiple regression analysis.

### Model Specification

This study employed baseline model adapted from Ahangar (2011) and Kurfi *et al.* (2017) which was in line with the Knowledge-based Theory. The baseline model functional relationship among performance, intellectual capital and corporate governance was given in the model below:

$$P.I = f(IC, CG) \quad (1)$$

Where *P.I* represents performance indicator variables, IC represents Intellectual Capital. For the study, the performance indicator variable is Return on Asset (ROA) while VAIC represents intellectual capital vector. The intellectual capital is proxied by vector Value Added Intellectual Coefficient. CG represents Corporate Governance and was captured as Audit Committee Size (AS), Board Size (BS), Proportion of Attendance in meeting (BMT), Audit Committee Meeting (ACM), Proportion of Independent Directors in the Audit and Risk Committee (BIND\_AR) and Log of Managerial Ownership Structure (LMO).

The performance indicator of ROA resulted into equation 2

$$ROA_{it} = f(VAIC^{TM}) \quad (2)$$

The vector is decomposed into Human Capital Efficiency, Structural Capital Efficiency and Capital Employed Efficiency. This result into the equation below:

$$ROA_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 CEE_{it} + e_{it} \quad (3)$$

This model is further expanded with the inclusion of Corporate Governance variables and the control variables in line with the study of Kurfi *et al.*, 2017 and Nwaiwu & Nwaekpe (2018). This result into the equation below:

$$= \beta_0 + \beta_1 AS_{it} + \beta_2 BS_{it} + \beta_3 ACM_{it} + \beta_4 BMT_{it} + \beta_5 BIND\_AR_{it} + \beta_6 LMO_{it} + \beta_7 AGE_{it} + \beta_8 LEV_{it} + \beta_9 HCE_{it} + \beta_{10} SCE_{it} + \beta_{11} CEE_{it} + e_{it} \quad (4)$$

With the inclusion of corporate governance index as one variable and this result into the equation below:

$$ROA_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 CEE_{it} + \beta_4 AGE_{it} + \beta_5 LEV_{it} + \beta_6 G_{it} + \beta_7 HCE * CG_{it} + \beta_8 SCE * CG_{it} + \beta_{10} CEE * CG_{it} + e_{it} \quad (5)$$

Where:

ROA	= Return on Asset
HCE	= Human Capital Efficiency
SCE	= Structural Capital Efficiency
CEE	= Capital Employed Efficiency
AS	= Audit Committee Size
BS	= Board Size
BMT	= Proportion of Attendance in meeting
ACM	= Audit Committee Meeting

BIND AR	=Proportion of Independent Directors in Audit and Risk Committee
LMO	=Log of Managerial Ownership Structure
AGE	=the numbers of years the companies is in operation
LEV	=Leverage is the total debt to equity ratio

## Results and Discussion

### Descriptive Statistics

This section reveals the analysis of the moderating role of corporate governance on the relationship between intellectual capital and financial performance of quoted non-financial companies in Nigeria. The results of the analysis are shown in Table 1, 2 and 3.

Table 1 below presents the descriptive analysis of the data. Audit committee size, leverage, board size etc. Audit committee size (AS) had a Mean value of 5.444, a median of 6.00 coupled with maximum and minimum value of 8.00 and 0.000 respectively. This, therefore, means that the values are too closely netted due to the nature of the variables. In the same vein, the mean and median of Audit committee meetings (ACM) is 3.45 and 4.00 respectively with a maximum and minimum value of 8.00 and 0.000. Also, its standard deviation is 0.944 and skewness is 0.122 while the Kurtosis is 5.56. The board meeting (BMT) mean value is 3.62 while the median is 4.00. The standard deviation BMT indicates low level of dispersion among the firms, while LEV reported the one of the highest level of dispersion in the sampled firms with mean of 2.20 and median of 1.305. Age of the firm was expected to be dispersed. Age (AGE) report mean of 47 years and median of 48 years over the sampled period. The board size (BS) also report low level of dispersion owing to the strict regulation prevailing the corporate governance structures of most companies in Nigeria.

**Table 1**  
**Descriptive Statistics of the variables**

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Observations
ROA	0.077	0.046	7.856	-3.505	0.454	7.867	165.994	550
ACM	3.459	4.000	8.000	0.000	0.944	0.122	5.568	550
AGE	47.146	48.000	94.000	2.000	20.316	0.100	2.703	550
AS	5.444	6.000	8.000	0.000	1.004	-1.574	6.340	550
BIND_AR	5.595	5.000	15.000	0.000	2.135	0.381	3.915	550
BMT	3.627	4.000	9.000	0.000	2.064	-0.564	2.605	550
BS	8.924	9.000	18.000	0.000	2.482	0.465	3.742	550
CEE	-0.021	0.000	10.639	-11.858	1.137	-0.320	43.405	550
HCE	0.686	0.193	40.408	-45.136	5.601	-0.622	32.061	550
LEV	2.203	1.305	71.572	-34.299	6.146	5.472	61.107	550
LMO	15.433	15.662	20.999	8.619	2.949	-0.007	2.101	550
SCE	0.567	0.921	15.713	-13.352	1.743	0.061	24.550	550

*This table shows the descriptive statistics of the variables used for this study.*

Source: Author's Computation (2020)

### Correlation

The correlation matrix shows the relationship between the dependent and the independent variables. The result also shows the relationship that exists between the independent variables and further shows symptoms of multi-collinearity if any. The result obtained shows that there exists a relationship between the dependent variable and the independent variables which signifies that the independent variables can influence or affect the dependent variables. Table 2 demonstrates that the regressors are not multi-collinear.

**Table 2**  
**Correlation**

Correlation Probability	ROA	ACM	AGE	AS	BIND_AR	BMT	BS	CEE	FIRM_SIZE	HCE	LEV	LMO	SCE
ROA	1.0000												
	-----												
ACM	0.0114 (0.8532)	1.0000											
		-----											
AGE	0.0159 (0.7970)	0.2787 (0.0000)*	1.0000										
			-----										
AS	0.0786 (0.2029)	0.4372 (0.0000)*	0.2498 (0.0000)	1.0000									
			)*	-----									
BIND_AR	0.0698 (0.2580)	0.1773 (0.0038)*	0.0200 (0.7458)	0.2244 (0.0002)	1.0000								
			)*	)*	-----								
BMT	0.0937 (0.1286)	0.2728 (0.0000)*	0.2938 (0.0000)	0.5378 (0.0000)	0.1254 (0.0416)*	1.0000							
			)*	)*	)*	-----							
BS	-0.0057 (0.9262)	0.2494 (0.0000)*	0.1578 (0.0102)	0.4637 (0.0000)	0.6166 (0.0000)*	0.2398 (0.0001)*	1.0000						
			)*	)*	)*	)*	-----						
CEE	0.1368 (0.0262)*	0.0011 (0.9845)	0.0192 (0.7550)	0.0585 (0.3436)	0.0245 (0.6918)	0.1035 (0.0932)	-0.0044 (0.9428)	1.0000					
			)*	)*	)*	)*	)*	-----					
FIRM_SIZE	-0.0354 (0.5665)	0.2866 (0.0000)*	0.1555 (0.0114)	0.4240 (0.0000)	0.1249 (0.0425)*	0.2188 (0.0003)*	0.3462 (0.0000)*	0.0297 (0.6301)	1.0000				
			)*	)*	)*	)*	)*	)*	-----				
HCE	-0.0713 (0.2483)	0.0963 (0.1182)	0.0186 (0.7635)	0.0490 (0.4273)	0.0473 (0.4436)	0.0162 (0.7929)	-0.0046 (0.9398)	-0.0577 (0.3502)	0.0638 (0.3010)	1.0000			
			)*	)*	)*	)*	)*	)*	)*	-----			
LEV	0.0025 (0.9676)	0.0233 (0.7062)	0.1043 (0.0908)	-0.0791 (0.1997)	-0.0384 (0.5345)	0.0409 (0.5077)	-0.0680 (0.2707)	-0.4873 (0.0000)	0.1070 (0.0824)	0.0271 (0.6604)	1.0000		
			)*	)*	)*	)*	)*	)*	)*	)*	-----		
LMO	-0.1352 (0.9676)	-0.1121 (0.7062)	-0.3491 (0.0908)	-0.0361 (0.1997)	0.0665 (0.5345)	-0.1289 (0.5077)	0.1064 (0.2707)	-0.0855 (0.0000)	-0.1077 (0.0824)	0.0019 (0.6604)	-0.1316 (0.6604)	1.0000	

			(0.0000)								(0.0325)		
	(0.0280)	(0.0689)	)* (0.5585)	(0.2810)	(0.0362)*	(0.0843)	(0.1656)	(0.0805)	(0.9754)	*	-----		
SCE	-0.0148	-0.0537	-0.0423	-0.016	-0.0092	-0.0371	-0.0502	0.0749	0.0672	-0.0138	-0.0495	0.0662	1.0000
			(0.4929)										
	(0.8106)	(0.3848)	) (0.7914)	(0.8817)	(0.5478)	(0.4163)	(0.2247)	(0.2763)	(0.8225)	(0.4223)	(0.2807)	-----	

The results of the analysis of the explicatory variables are shown in this table. The results indicated that the variables were not exhibiting serious correlation with one another. This informed the inclusion of all the explanatory variables in the model.

Source: Author's Computation (2020)



## Discussion of Findings

Table 3 presents the results of regression of the moderating role of corporate governance on the relationship between intellectual capital and financial performance of quoted non-financial companies in Nigeria. The model was estimated using Fixed Effect and Random Effects assumption. 50 quoted non-financial companies from 2007 to 2017 were sampled. Return on Assets (ROA) was used as a measure of performance. Corporate Governance Variables were Audit Committee Size (AS), Board Size (BS), Audit Committee Meeting (ACM), Proportion of Independent Directors in Audit and Risk Committee (BIND\_AR) and Managerial Ownership Structure (LMO). However, in order to reduce the tendency of weak parameters, Hausman test for correlated random effects was conducted to provide the best model estimates for the data (see Table 3 for result) and consider if the variance in the estimates of the random and fixed effect models are significant to cause biasness of the model parameters. The Hausman test (Chi-Sq. statistics) rejects the null hypothesis that unobserved firm specific heterogeneity are uncorrelated with explanatory variables and so, the study employed the Fixed Effect Method (FEM) which is the most appropriate model to interpret the result of the analysis.

Human Capital Efficiency (HCE) showed a value of 0.22 which implied a positive relationship with ROA ( $t=2.1617$ ,  $p<0.05$ ). This showed that the non-financial firms listed at the Nigeria Stock Exchange (NSE) between 2007 and 2017 on average of 0.22 funds for the labours that can create value added. The positive relationship between ROA and Human Capital efficiency indicated the ability of Human Capital to efficiently aid the profitability and create value in the company. Also, optimal utilization of human resources leads to competitive advantages that may ultimately improve the financial performance and corporate value.

Structural Capital Efficiency (SCE) showed an average coefficient of 0.28. The variable had positive relationship with ROA ( $t=2.3288$ ,  $p<0.05$ ). This showed that SCE contributed 0.280 in the firm value creation. Capital employed efficiency (CEE) had positive significant effect on ROA ( $t=12.9183$ ,  $p<0.05$ ). This indicated that the high value of CEE leads to increasing profitability in non-financial firms of Nigeria. Human capital efficiency (HCE) had positive relationship with ROA ( $t=2.1617$ ,  $p<0.05$ ). Leverage ratio had positive relationship with ROA ( $t=2.5309$ ,  $p<0.05$ ). Corporate Governance (CG) had moderating effect on the relationships between intellectual capital and the firm performance through the capital employed efficiency ( $t=2.7389$ ,  $p<0.05$ ), human capital efficiency ( $t=2.2293$ ,  $p<0.05$ ) and also structural capital efficiency ( $t=2.1051$ ,  $p<0.05$ ). Strong corporate governance system serves as a good platform to induce efficiency in the firm. The F-statistics test of the significance of the model indicates that the model was statistically significant at 5% level of significance. The  $R^2$  coefficient was used in determining the coefficient of determination of the model, the  $R^2$  value of 0.42, implied that about 43 percent of variation in ROA was explained by changes in selected firm-specific variables.

Findings of this study agree with the findings of Hamadan *et. al.*, (2017) which asserted that corporate governance significantly influenced intellectual capital and firms' financial performance. Also, the findings of this study are supported by the findings of Aslam *et. al.*, (2018) which concluded that both corporate governance and intellectual capital are related with improved firms' financial performance and Afab *et. al.*, (2019) which concluded that there is a positive and significant relationship between intellectual capital and firm value while moderating variable of ownership structure as a corporate governance mechanism has a negative impact on firm value.

**Table 3**  
**Moderating Role of Corporate Governance on the Relationship between Intellectual Capital and Performance of Quoted Non-Financial Companies in Nigeria**

<i>Method:</i>	FIXED EFFECT	RANDOM EFFECT
<i>Dep. Var:</i>	ROA	ROA
CG	0.3674 [0.2160]	0.2289 [0.1551]
CEE*CG	1.2436 [2.7389]**	1.1837 [1.9400]*
HCE*CG	0.0414 [2.2293]**	-0.0517 [-2.2446]**
SCE*CG	0.5842 [2.1051]**	0.3159 [0.4141]
AGE	-1.5307 [-2.7755]**	0.0844 [0.8061]
CEE	14.5293 [12.9183]**	14.7616 [1.6297]
HCE	0.2231 [2.1617]**	0.3366 [0.2122]
SCE	4.2874 [2.3288]**	-2.0796 [-2.3558]**
LEV	1.4015 [2.5309]**	1.2411 [4.3664]**
C	74.9782 [2.6949]**	-0.0556 [-0.0048]
<i>Observations:</i>	550	550
<i>R-squared:</i>	0.4217	0.3127
<i>F-statistic:</i>	16.0914	28.8689
<i>Prob(F-stat):</i>	0.0000	0.0000
<i>Hausman Test</i>	33.167563(p<0.05)	

This table shows the regression statistics of moderating role of corporate governance on the relationship between intellectual capital and performance of quoted non-financial companies in Nigeria with the level of significance of the variables. \*\*\*, \*\* and \* reveals that variable is significant at 1%, 5% and 10% respectively.

**Source: Author's Computation (2020)**

### Conclusion and Recommendations

The study investigates the moderating role of corporate governance on the relationship between intellectual capital and performance of quoted non-financial companies in Nigeria during an eleven years period. Thus, the results from the study indicate that that corporate governance had moderating effect on the relationships between intellectual capital and the firm performance through the capital employed efficiency ( $t = 2.7389$ ,  $p < 0.05$ ), human capital efficiency ( $t = 2.2293$ ,  $p < 0.05$ ) and structural capital efficiency ( $t = 2.1051$ ,  $p < 0.05$ ). This study has its own limitation because it is only carried out on quoted non-financial companies and the result cannot be used to generalize what happened in other sectors like financial institutions and service oriented firms. Also it only makes use of financial performance measures while non-financial performance measures that may explain the situations also were not included. Finally, the study recommends that Board of directors should adopt measurable corporate governance mechanism which strengthens and helps in investment strategy that increases and improves performance.

Also, there is need to entrench corporate governance as a control strategy and impetus towards attaining organization's goals. More work are still needed to be carry out on this topic but researchers may look at other sectors as different from non-financial sector and also make use of both financial and non-financial performance variables.

## References

- Abdur Rouf, Md., (2011). The relationship between corporate governance and value of the firm in developing countries: Evidence from Bangladesh. *The International Journal of Applied Economics and Finance*, 5, 237-244.
- Adebunmi, A. O. (2018). Intellectual capital disclosure and value of quoted non-financial firms in Nigeria. *An unpublished MSc. dissertation submitted to the Department of Management and Accounting, Obafemi Awolowo University. Ile-Ife, Nigeria.*
- Adegbite, E. (2012). Corporate governance and responsibility in Nigeria. *International Journal of Disclosure and Governance*, 21(2), 93–104
- Adesanmi, A. D., Sanyaolu, O. A., Ogunleye, O. O. & Ngene, T. W. (2018). Corporate governance and firm's financial performance. A comparative study of manufacturing companies and banks in Nigeria. *International Journal of Contemporary Research and Review*. 9(7), 209-219
- Afrifa, G. A., & Tauringana, V. (2015). Corporate governance and performance of United Kingdom listed small and medium enterprises. *The International Journal of Business in Society*, 15(5), 719–733.
- Aftab A., Khurshid, M. K., & Yousaf, M. U. (2019). Impact of intellectual capital on firm value: The moderating role of managerial ownership. *Preprints 2019*, 2019010318 (doi:10.20944/preprints201901.0318.v1).
- Ahangar, R. G. (2011). The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company. *African Journal of Business Management*, 5(1), 88-95.
- Ahmad, M., (2011). The impact of corporate governance and intellectual capital on firm's performance and corporate social responsibility disclosure. *Journal of Commerce and Social Science*, 12(1), 283-308.
- Ahmad, S., & Mushraf, A. M. (2011). The relationship between intellectual capital and business performance: An empirical study in Iraqi industry. *International Proceedings of Economics Development and Research*, 6, 104-109.
- Ali, A., & Nasir, B. (2014). Impact of board characteristics and audit committee on financial performance: A study of manufacturing sector of Pakistan. *Research Journal of Finance and Accounting*, 5(7), 144-152.
- Al-Matar, E. M., Al-Swidi, A. K., & Bt Fadzil, F. H. (2014). The effect of board of directors characteristics, audit committee characteristics and executive committee characteristics on firm performance in Oman: *Asian Social Science*, 10(11), 45-55.
- Arosa, B., Iturralde, T., & Maseda, A. (2009). Ownership structure, insiders ownership and firm performance in Spanish non-listed firms. Available at SSRN:<http://dx.doi.org/10.2139/ssrn.1505308>

- Aslam, S., Ahmad, M., Amin, S., Usman, M., & Arif, S. (2018). The impact of corporate governance and intellectual capital on firm's performance and corporate social responsibility disclosure. *Journal of Commerce and Social Science*, 12(1), 283-308.
- Basyith, A. (2016). Corporate governance, intellectual capital and firm performance. *Research in Applied Economics*, 8(1), 17. ISBN 1948-5433.
- Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate governance and firm performance: Evidence from Saudi Arabia. *Australasian Accounting, Business and Finance Journal*, 11(1), 78-98.
- Busari, A. O. (2014). Intellectual capital and corporate performance of manufacturing companies in Nigeria. *An Unpublished Msc. Dissertation submitted to the Department of Management and Accounting, Obafemi Awololowo University, Ile-Ife, Nigeria.*
- Celenza, D., & Rossi, F. (2014). Intellectual capital and performance of listed companies: Empirical evidence from Italy. *Measuring Business Excellence*, 18(1), 22-35.
- Chang, C. M., & Lee, Y. J. (2012). Verification of the influences of intellectual capital upon organizational performance of Taiwan-listed info-electronics companies with capital structure as the moderator. *The Journal of International Management Studies*, 7(1), 80-92.
- Chen, M. C., Chen, S. J., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firm's market value and financial performance. *Journal of Intellectual Capital*, 6(2), 159-176.
- Cronje, C. J., & Moolman, S. (2013). Intellectual capital: Measurement, recognition and reporting. *South African Journal of Economic and Management Sciences*, 16, 1-12.
- Darmadi, S. (2011). Board diversity and firm performance: The Indonesian evidence. *Corporate Ownership and Control Journal*, 8, 1-38.
- Daryae, A., Pakdel, A., Easapour, K., & Khalafu, M. M. (2011). Intellectual capital, corporate value and corporate governance: Evidence from Tehran Stock Exchange (TSE). *Australian Journal of Basic and Applied Sciences*, 5, 821-826.
- Das, T. K., & Teng, B. S. (2000). A resource-based theory of strategic alliances. *Journal of Management*, 26(1), 31-61.
- Dass, N., Kini, O., Nanda, B., & J. Wang, (2014). Board expertise: Do directors from related industries help bridge the information gap? *Review of Financial Studies*, 27(5): 1533-1592
- Ehikioya, B. I. (2009). Corporate governance structure and firm performance in developing economies: Evidence from Nigeria. *The International Journal of Business in Society*, 9(3), 231-243.
- Ferraro, O., & Veltri, S. (2011). The value relevance of intellectual capital on the firm's market value: An empirical survey on the Italian listed firms. *International Journal of Knowledge-Based Development*, 2, 66-84.
- Harvey, P.H., Chamisa, E., Abdulla, C. & Smith, C. (2015). An analysis of corporate governance and company performance: A South Africa perspective. *South African Journal of Accounting Research*, 29(2), 115-131.

- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *The Academy of Management Review*, 28(3), 383-395.
- Hoopes, D. G., Madsen, T. L., & Walker, G. (2003). Why is there a resource-based view? toward a theory of competitive heterogeneity. *Strategic Management Journal*, 24, 23-34.
- İlhan, Ç. (2019). The moderating effect of human capital on innovation capital and firm market value. *International Journal of Accounting and Financial Reporting*, 5(5), 23-28.
- Irawanto D. W., Gondomono H. & Hussein S. A. (2017). The effect of intellectual capital on a company's performance moderated by its governance and it strategy integration employed by banks listed in Indonesian Stock Exchange. *The South East Asian Journal of Management*, 11(2), 86-102.
- Kajola, S. O. (2008). Corporate governance and firm performance: The case of Nigerian listed firm. *European Journal of Economics, Finance and Administrative Science*, ISSN 1450-2275 Issue 14.
- Kharal, M., Abrar, M., Zia-ur-Rehman, M., Sarfraz Khan, M., & Kharal, M. (2014). Intellectual capital and firm performance: An empirical study on the Oil and Gas Sector of Pakistan. *International Journal of Accounting and Financial Reporting*, 4(1), 238-250.
- Kurfi, S. A., Udin, N. M., & Bahamman, S. M. (2017). The impact of intellectual capital on the financial performance of listed Nigerian food products companies. *Journal of Accounting and Taxation*, 9(11), 147-160.
- Marn, J. K., & Romuald, D. F. (2012). The impact of corporate governance mechanism and corporate performance: A study of listed companies in Malaysia. *Journal for the Advancement of Science and Arts*, 3(1), 15-30.
- Marr, B., Schiuma, G., & Neely, A. (2004). The dynamics of value Creation—Mapping Your Intellectual Performance Drivers. *Journal of Intellectual Capital*, 5, 312-325.
- Martin, C., Seng, D., & Whiting, R. H. (2011). Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*, 12(4), 505–530.
- Narwal, K. P., & Jindal, S. (2015). The impact of corporate governance on the profitability: An empirical study of Indian textile industry. *International Journal of Research in Management, Science and Technology*, 3(2), 81-85.
- Nassar, S. (2018). Impact of intellectual capital on firm performance of the Turkish real estate companies before and after the crisis. *European Scientific Journal*, 14(1), 45-60
- Nkundabanyanga, S. K. (2016). Board governance, intellectual capital and firm performance: importance of multiplicative effects. *Journal of Economic and Administrative Sciences*, 32(1), 20-45.
- Nwaiwu, J. N., & Nwaekpe, U. C. (2018). Webometric analysis of intellectual capital reporting and corporate financial performance in Nigeria. *International Journal of Innovative Finance and Economics Research*, 6(1), 75-98.
- Nwonyuku, K. N. (2016). Corporate governance and profitability of listed food and beverages firms in Nigeria. *Academy of Management Journal*, 32(1) 7-24.
- Obigbemi, I. F., Mukoro, D. O., Adetula, D. T. & Owolabi, F. A. (2016). Corporate governance mechanism and financial performance of companies. *Journal of South*

- Olayiwola, K. T. (2018). The effect of corporate governance on financial performance of listed companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 6(9) 85-98.
- Pulic, A. (2000). An accounting tool for intellectual capital management. *International Journal of Technology Management*, 20, 702-714.
- Puntilo, P. (2009). Intellectual capital and business performance: Evidence from Italian banking industry. *Journal of Corporate Finance*, 12(4), 97-115.
- Purwaningsih, E. (2018). The influence of value-added intellectual capital to financial performance with ownership structure as moderating variables. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), 277-290.
- Salman, R. T., Mansor, M., Babatunde, D. A., & Tayib, M. (2012). Impact of intellectual capital on return on assets in Nigeria manufacturing companies. *Interdisciplinary Journal of Research in Business*, 2(4), 21-30.
- Seng, D., & Whiting, R.H. (2011). Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*, 12(4), 505-530.
- Shaveisi, F & Khairollahi, F. (2017). Does ownership structure matter for corporate intellectual capital performance? An empirical test in the Iranian context. *Eurasian Business Review*, 7, 67-91.
- Uwuigbe, U., & Uadiale, O. M. (2011). Intellectual capital and business performance: Evidence from Nigeria. *Interdisciplinary Journal of Research in Business*, 1, 49-56.
- Yang, C. C., & Lin, C. Y. (2009). Does intellectual capital mediate the relationship between human resource management and organizational performance? Perspective of a healthcare industry in Taiwan. *International Journal of Human Resource Management*, 20(9), 65-84.