INTERNATIONAL REVIEW OF FINANCIAL STUDIES | IROFS
Vol 1, Issue 1; October, 2024 / visit: https://journals.unizik.edu.ng/irofs

INTELLECTUAL CAPITAL MANAGEMENT AND MARKET VALUE OF LISTED CONGLOMERATES IN NIGERIA

Ngozi Nwadi Adimora[1]; Chidiebele Innocent Onyali[2]; Chinedu Jonathan Ndubuisi[3]

[1,2&3]*Department of Accountancy, Faculty of Management Sciences, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria*

Email: ngoziadimora78@gmail.com[1]; ci.onyali@unizik.edu.ng[2]; cj.ndubuisi@unizik.edu.ng[3]

All correspondence to: ngoziadimora78@gmail.com

ABSTRACT

The study examined the effect of intellectual capital on market value of listed conglomerates in Nigeria. The study specifically examined how the effect of human capital management, structural capital management and capital employed management on market value of shares. The study adopted the ex-post facto research design; as the goal was not to manipulate any variable but rather to establish effect and mediation. The population comprised listed conglomerates and the sample restricted to a purposive sample of five (5) firms whose annual reports were accessible and contained the needed data for the period of 11 years from 2013-2023 which was the time scope of this study. The data were analysed using the Ordinary Least Square (OLS) regression. The results showed human capital management has a significant positive effect on market value of listed conglomerates while structural capital management and capital employed management have a significant negative effect.

Key words: *Capital Employed Management, Human Capital Management, Intellectual Capital, Market Value, Structural Capital Management.*

CITE AS: Adimora, N.N., Onyali, C.I. & Ndubuisi, C.J. (2024). Intellectual capital management and market value of listed conglomerates in Nigeria, *International Review of Financial Studies*, 1(1), 37 - 50. Available: https://journals.unizik.edu.ng/irofs

1. INTRODUCTION

It has been argued that the rise of the knowledge economy and its preference over the production economy brought about a paradigm shift in which businesses were no longer solely evaluated on the basis of their tangible assets; instead, they were evaluated on an all-encompassing platform that considered their worth as the sum of their intangible and tangible assets (Aprilianda & Nur, 2023). In particular, Ofurum, Onuoha, and Nwaekpe (2018) contend that businesses in Nigeria have not been able to effectively utilize the components of their intellectual capital, and as a result, have not been able to attain optimality in regard to their management of intellectual capital. Suzan & Ardiansyah (2023) contend that in the twenty-first century, the industrial development model needs to provide sophisticated accommodations for knowledge-based and innovative businesses, such as valuation models that are not possible to achieve through conventional methods. They maintained that

knowledge and intellectual capital are intangible assets that are far outweighing traditional methods of valuing assets like real estate, land, and capital assets, and that intellectual assets are increasingly serving as reliable indicators of a company's performance.

Nonetheless, disparate findings were found in an analysis of research conducted globally on the impact of intellectual capital on business value. In particular, there is still a lack of knowledge regarding whether or not to invest in and use intellectual capital as a critical asset, despite the grounded framework of intellectual capital being in place and intellectual capital being researched in many countries to give firms a competitive advantage over rivals (Hermawan, Hariyanto, & Biduri 2020). In addition, a number of studies have examined intellectual capital in the developed world. For example, Pedro, Leitão, and Alves (2018) used Spanish companies in their multivariate regression analysis; Kowalska (2020) assessed Polish listed companies and Shakina through panel regression analysis; and Barajas and Molodchik (2017) used OLS regression analysis to select samples from listed Russian companies. As a result, very few research have examined the effects of intellectual capital on company value using developing emerging countries, particularly in Sub-Saharan Africa (Nigeria in particular).

In Nigeria, the few existing studies on intellectual capital concentrated more on firm performance as against market value of the firms. The studies also ignored the conglomerate sector. For instance, Omaliko, Mordi and Uzodimma (2023) examined the relationship between intellectual capital efficiency and corporate sustainability growth on listed manufacturing firms in Nigeria, Okafor and Orjinata (2023) examined the relationship between intellectual capital investment and corporate sustainability growth on listed industrial goods firms in Nigeria, Haruna (2022) determined the effect of intellectual capital on the performance of multinational companies in Nigeria. Lambe, Ame and Dzugwahi (2022) examined the relationship between natural and intellectual capital and financial performance of listed multinational companies in Nigeria, Obi, Okon, and Ojiako (2022) investigated the influence of intellectual capital efficiencies on firm value in Nigeria drawing samples from listed service firms in Nigeria. It is against this backdrop that this study examined the effect of intellectual capital on the market value of listed conglomerates in Nigeria.

1.1 Objectives

The main objective of this study is to examine the effect intellectual capital on market value of listed conglomerates in Nigeria. However, the specific objectives are to.

1. examine the effect of human capital management on market value of listed conglomerates in Nigeria;
2. investigate the effect of structural capital management on market value of listed conglomerates in Nigeria;
3. ascertain the effect of capital employed management on market value of listed conglomerates in Nigeria.

1.2 Hypotheses

The following hypotheses will be tested in their null forms.

H_{o1}: Human capital management does not have significant effect on market value of listed conglomerates in Nigeria;

H_{o2}: Structural capital management does not have significant effect on market value of listed conglomerates in Nigeria;

H_{o3}: Capital employed management does not have significant effect on market value of listed conglomerates in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Review

Although it can be a source of innovation and development for a company, human capital is becoming a harder concept to quantify. According to Omaliko, Mordi, and Uzodimma (2023), human capital is a word that acknowledges an organization's employees as significant and vital assets that support development and progress in a manner similar to that of tangible assets like machinery and cash. Performance inside an organization is influenced by people's attitudes, skills, and competencies as a whole. Human capital management makes ensuring that an organization's knowledge, skills, and competences represent its employees' combined capacity to generate the best solutions possible using their expertise, which adds value to the business. According to Onyekwelu, Okoh, and Iyidiobi (2017), human capital is a conglomerate of information, expertise (skills), and inventiveness in completing tasks, corporate values, culture, and philosophy. According to Haruna (2022), human capital is the sum of an individual's knowledge, drive, capabilities, organizational foundational resources, and skills that enable employees to support corporate performance. In a similar vein, Duru, Okpe, and Nwosu (2018) point out that human capital refers to resources associated with the

knowledge, abilities, and other personal qualities that employees must possess. In the current business climate, human capital is acknowledged as a vital resource for organizations that generates value. It is an essential instrument for businesses to get a competitive edge. The infrastructure that helps workers produce their best work is known as structural capital. It includes an organization's capacity to access markets, hardware, software, databases, organizational structure, patents, trademarks, and all other tools that help boost worker productivity (Ahmed & Tamanna, 2023). The idea that structural capital exists facilitates the production of intellectual capital and serves as a conduit for the conversion of human resources into intellectual capital. The knowledge or "know-how" that remains the property of the company after the contribution made by human skill is known as structural capital (Haruna, 2022). According to Duru, Okpe, and Nwosu (2018), structural capital is what the businesses own and includes relational capital, inventive capital, organizational infrastructure, and so on. In a similar vein, Ali (2015) noted that structural capital includes the supportive frameworks that enable the enterprise to capitalize on its intellectual capital. The framework spans from the actual goods that a company offers, such databases, trademarks, and patents, to the total intangible success, like employee trust, openness, and culture. This capital is the outcome of the systems or products the company has developed over time and will stick with the business even after employees depart (Leo-see, 2018).

Funds employed, or capital employed, is the entire amount of capital used by a company or project to obtain profits. An organization's total asset value that it uses to produce profits is sometimes referred to as its capital employed. The tangible assets that make up capital employed are both financial and material assets. The financial component comprises assets that remain when employees depart, whereas the physical component consists of fixed and raw materials (Haruna, 2022). Capital employed, according to Ovechkin, Boldyreva, and Davydenko (2020), includes both financial and material capital, such as the book value of net assets. The difference between total assets and intangible assets is the study's capital employed, and the ratio of value added to capital employed is the measure of the efficiency of the capital utilized. The quantity of capital utilized in the company's current and fixed assets is referred to as capital employed. The same fund's long-term obligations, equity, and loan capital are all included. It is equivalent to the fixed asset and working capital in terms of assets. As a result, the company's capacity to generate revenue was made possible by the capital uses summarizing asset values, also referred to as operating assets. Two common ways to finance the money are net debt and shareholder equity financing (Onyekwelu & Ubesie, 2016).

Empirically, Mukaro, Deka, and Rukani (2023) in their investigation on the relationship between organizational performance and intellectual capital throughout Turkey's business sectors, discovered that intellectual capital and long-term liabilities lower firm profitability. Analogously, Omaliko, Mordi, and Uzodimma (2023) investigated the connection between corporate sustainability growth and intellectual capital efficiency and discovered a strong and favorable correlation between the sustainability growth of Nigerian manufacturing firms and their human, relational, and structural capital. In their analysis of the relationship between intellectual capital and firm performance in the post-COVID-19 era of Indonesian telecommunications, Muftiasa, Wibow, Hurriyati, and Rahayu (2023) discovered a statistically significant and positive relationship. In Uganda, Bananuka, Tauringana, and Tumwebaze (2023) looked into the relationship between intellectual capital (IC) and sustainability reporting practices. Their findings showed a strong correlation between IC and sustainability reporting practices. In their investigation into the connection between corporate sustainability growth and intellectual capital investment, Okafor and Orjinata (2023) discovered a strong and favorable correlation between the sustainability growth of Nigerian industrial goods companies and their investments in human, relational, and structural capital. The impact of intellectual capital on the performance of multinational corporations operating in Nigeria was examined by Haruna (2022), who discovered that the performance of these organizations is positively and significantly impacted by the efficiency of capital used. Also, the success of multinational corporations in Nigeria is unaffected by either structural or human capital efficiency.

3. MATERIAL AND METHODS

Ex-post facto research design has been employed in this study. The ex-post facto research design was adopted for this study since the study made use of historical data for the analysis. The population of this study is made up of all the conglomerates listed on the floor of the Nigerian Exchange Group during an 11-year period between 2013 and 2023. Particularly, this study draws the final sample size through a procedure of purposive non-probability sampling technique which takes cognizance of availability, data of listing, presence of foreign ownership and accessibility of relevant information (data) needed for the study. The sampled conglomerates include: Chellarams PLC, John Holts PLC, SCOA Nigeria PLC, Transcorp PLC and UACN PLC.

This study employed secondary data collection technique. Secondary data collection is the gathering of information already researched and presented by other scholars or data obtained from other sources. These secondary sources include Audited annual reports of the related quoted companies on the Nigerian Stock Exchange website. Descriptive statistics was computed such as the mean, median, standard deviation, minimum, maximum values statistics. This was used to describe the nature of data and also aid data visualization. Ordinary Least Square (OLS) regression was used to validate the hypotheses.

In this study, the specified models are built to capture the effect of intellectual capital management on market value of conglomerates in Nigeria. Thus, the study modified the models specified by Omaliko, Mordi amd Uzodimma (2023) to suit the variables employed in this study. Their model was stated as CSG = f(HCE, RCE, SCE); Where CSG is Corporate Sustainability Growth, HCE is human capital employed, RCE is relational capital employed and SCE is structural capital employed. The model was modified thus:

$MAVS_{it} = \beta_0 + \beta_1 HCM_{it} + \beta_2 SCM_{it} + \beta_3 CEM_{it} + \mathcal{E}_{it}$

Where:

MAVS = Market Value of Shares

HCM = Human Capital Management

SCM = Structural Capital Management

CEM = Capital Employed Management

β_1- β_3 = Slope Coefficient

Ɛ = Error term

i = i^{th} firm

t = time period

Table 1. Operationalization/ Measurement of Variables and Apriori Expectation

S/N	Variables	Measurement	Apriori Sign
Dependent Variable			
1	Market Value of Shares	Total outstanding shares multiplied by the current price per share	
Independent Variables			
2	Human Capital Management	Revenue minus cost of revenue divided by staff cost	+
3	Structural Capital Management	Revenue minus cost of revenue and staff cost divided by revenue minus cost of revenue	-
4	Capital Employed Management	Capital Employed Efficiency in numbers is computed as Revenue	+

		minus cost of revenue divided by total asset minus intangible asset.	

4. RESULT AND DISCUSSIONS

4.1 Data Analysis

4.1.1 Descriptive Statistics

The descriptive statistics of the main independent variables utilized in the study are presented in Table 1 below; the table shows the number of observations, mean, standard deviation, minimum and maximum values of the variables. The description helps in showing the nature of the data.

Table 2: Summary statistics of variables

```
. summarize MARKETVS HCM SCM CEM
```

Variable	Obs	Mean	Std. Dev.	Min	Max
MARKETVS	55	22.87145	33.71737	.16	144.55
HCM	55	3.956003	7.937462	-10.28149	33.24803
SCM	55	1.87243	8.333066	-5.565717	60.28404
CEM	55	.0442034	.1031898	-.2846684	.2519494

Source: STATA 15 Outputs, 2024

The Obs. column (for instance, observations) shows the number of observations included in the analysis of the variables of the study as fifty five (55). The Mean is a measure of central tendency which calculates the average of a set of observations; while, the Standard Deviation (SD) is a measure of the average distance between the values of the data in the set and the mean. A low SD indicates that the data points tend to be very close to the mean; a high SD indicates that the data points are spread out over a large range of values.

The mean value for market value is 22.87, with a SD of 33.72 that shows that the values are spread out over a very large range of values, a minimum value of 0.16 and a maximum value of 144.55. Human capital management has a mean of 3.96, with a SD of 7.94 that shows that the values are spread out over a large range of values, it has a minimum value of -10.28 and a maximum value of 33.25. The mean value for structural capital management is 1.87, with a SD of 8.33 that shows that the values are spread out over a large range of values, a minimum value of -5.57 and a maximum value of 60.28. Finally, capital employed management has a

mean of 0.044, with a SD of 0.10 that shows that the values are spread out over a small range of values, it has a minimum value of -0.28 and a maximum value of 0.25.

Table 3: Correlation Matrix

```
. correlate MARKETVS HCM SCM CEM
(obs=55)
```

	MARKETVS	HCM	SCM	CEM
MARKETVS	1.0000			
HCM	0.2112	1.0000		
SCM	-0.0699	-0.0680	1.0000	
CEM	-0.3800	0.5254	-0.0772	1.0000

Source: STATA 15 Outputs, 2024

Table 3 shows the result of correlation analyses. The table indicate the relationship between variables of the study. From the table, market value being the dependent variable has less than 39% relationship with all the independent variables. Interesting, the relationship between the various independent variables is less than 10% except for human capital management and capital employed management that is 52.5%. This results shows the absence of multicollinearity among the independent variables. This is also confirmed by the VIF table below.

Table 4: VIF test for Multicollinearity

```
. vif
```

Variable	VIF	1/VIF
CEM	1.38	0.722249
HCM	1.38	0.723223
SCM	1.01	0.992999
Mean VIF	1.26	

Source: STATA 15 Outputs, 2024

Table 4 shows the result for VIF test for multicollinearity. The assumption of multicollinearity suggests that a VIF value of less than 4 signifies the absence of multicollinearity among independent variables. From the table, all variables have VIF value of less than 4. The mean VIF of 1.26 signifies the absence of multicollinearity among the independent variables.

Table 5: Shapiro-Wilk W test for normal data

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
MARKETVS	55	0.70604	14.907	5.794	0.00000
HCM	55	0.84035	8.096	4.485	0.00000
SCM	55	0.23982	38.550	7.832	0.00000
CEM	55	0.93559	3.266	2.538	0.00557

Source: STATA 15 Outputs, 2024

The Shapiro-Wilk test for normal data result was presented in table 5. From the table, all variables have probability value of less than 0.05 which are all significance at 5% and signify that the data set are not normally distributed. However, the study made use of the robust standard error to solve the problem of normality of data.

Table 6: OLS regression Result

```
. regress MARKETVS HCM SCM CEM, vce(robust)

Linear regression                               Number of obs     =         55
                                                F(3, 51)          =      12.65
                                                Prob > F          =     0.0000
                                                R-squared         =     0.3846
                                                Root MSE          =     27.218
```

MARKETVS	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
HCM	2.39699	.5312105	4.51	0.000	1.33054	3.463439
SCM	-.3408729	.1103449	-3.09	0.003	-.5623996	-.1193462
CEM	-223.1591	42.99015	-5.19	0.000	-309.4654	-136.8528
_cons	23.8916	4.295307	5.56	0.000	15.26841	32.51479

Source: STATA 15 Outputs, 2024

The OLS regression on table 6 showed the total number of observation as 55. The Prob> F is 0.0000 which is less than 0.05 shows that the OLS regression model is perfectly fit for our analysis. The model however showed that the independent variables were able to explain only 38.46% variation in the dependent variable.

4.2 Test of Hypotheses

4.2.1 Hypothesis One

Ho: Human capital management does not have significant effect on market value of listed conglomerates in Nigeria.

Decision: since the p-value of 0.000 is lower than the margin of error of 0.05, we therefore reject the null hypothesis and accept the alternate hypothesis: Human capital management significantly affects the market value of listed conglomerates in Nigeria. This suggests that an increase in human capital leads to a significant increase in the market value of conglomerates. This positive effect may be attributed to increased productivity and revenues without expanding headcount, ability to pay team members more competitively by boosting revenue per employee and better identification of skills gaps to target training and recruitment. Prior studies such as; Jaradat, Al-Hawamleh, Altarawneh, Hikal and Elfedawy (2024), Tiwari, Vidyarthi, and Kumar (2023), Awwad and Qtaishat (2023), Omaliko, Mordi and Uzodimma (2023), Muftiasa, Wibow, Hurriyati and Rahayu (2023) are in agreement with the findings of our study.

4.2.2 Hypothesis Two

Ho: Structural capital management does not have significant effect on market value of lis ted conglomerates in Nigeria.

Decision: since the p-value of 0.003 is lower than the margin of error of 0.05, we therefore reject the null hypothesis and accept the alternate hypothesis: structural capital management significantly affects the market value of listed conglomerates in Nigeria. This suggests that an increase in structural capital leads to a significant decrease in the market value of conglomerates. The negative impact of structural capital efficiency on firm value can be attributed to the non-linearity concealed in the Value-Added Intellectual Coefficient (VAIC) formula. This non-linearity challenges the traditional understanding of how components within the VAIC model interact with firm performance and market value. In agreement with this study were studies of Shairi, Mohammad, and Tuyon (2021), John-Akamelu and Iyidiobi (2018)

4.2.3 Hypothesis Three

Ho: Capital employed management does not have significant effect on market value of listed conglomerates in Nigeria.

Decision: since the p-value of 0.000 is lower than the margin of error of 0.05, we therefore reject the null hypothesis and accept the alternate hypothesis: capital employed management significantly affects the market value of listed conglomerates in Nigeria. This suggests that an increase in capital employed leads to a significant decrease in the market value of conglomerates. This finding is in line with the finding of Duru, Okpe and Nwosu (2018). On the contrary, Awwad and Qtaishat (2023), Haruna (2022), Van, Vo, Hoang, and Tran (2022), Gupta, Rathore and Kashiramka (2022), Shairi, Mohammad, and Tuyon (2021) found a positive effect.

CONCLUSION AND RECOMMENDATIONS

The primary resource for creating wealth today is intellectual capital. This is particularly true in information-based economies, like the conglomerate industry, where people's and businesses' value added is closely correlated with their intellectual capital and knowledge. Investigating the impact of intellectual capital and its constituents—human capital, structural capital, and capital employed—on the market value of conglomerates listed on the Nigerian Exchange Group (NGX) was the primary goal of this study. The article was conducted by using the data from 5 conglomerates' annual reports. Intellectual capital was measured using Pulic's VAIC approach, with market value of shares serving as an indicator of market value. The results indicate that, during the study period, HCM outperforms SCM and CEM as the most effective factor in the value generation issue. SCM and CEM move in the opposite direction from HCM, which moves in lockstep with market value. This indicates that during the study period, the Nigerian conglomerates rely more on intellectual than on physical assets. Overall, we can say that the market value of Nigerian conglomerates is greatly impacted by intellectual capital management, albeit in varied ways.

REFERENCES

Ahmed, M., & Tamanna, D. (2023). Does the efficiency of firm's intellectual capital and working capital management affect its performance? *Journal of the Knowledge Economy*. https://doi.org/10.1007/s13132-023-01138-7

Ali, I. (2015). *Effect of Intellectual Capital Component on the financial performance of Deposit Money Banks in Nigeria.* Paper presented at the 6th Academic Conference of

Hummingbird Publications and Research International on Paving way for Africa Unique opportunities for Sustainable Development in the 21st Century.

Aprilianda, E. N., & Nur, I. (2023). Dampak nilai perusahaan dengan ukuran perusahaan sebagai variabel moderasi pada sektor makanan dan minuman di Bursa Efek Indonesia. *Reslaj: Religion Education Social Laa Roiba Journal*, *5*(6), 3259–3270. https://doi.org/10.47467/reslaj.v5i6.3805

Awwad, M.S. & Qtaishat, A.M. (2023). The impact of intellectual capital on financial performance of commercial banks: the mediating role of competitive advantage. *International Journal of Learning and Intellectual Capital*, 20(1), 47-69.

Bananuka, J., Tauringana, V., & Tumwebaze, Z. (2023). Intellectual capital and sustainability reporting practices in Uganda. *Journal of Intellectual Capital*, *24*(2), 487-508.

Duru, N., Okpe, I., & Nwosu, N. (2018). Effect of intellectual capital on financial performance of banks in Nigeria. *IDOSR Journal of Banking, Economics and Social Sciences, 3*(1), 9-35

Gupta, J., Rathore, P. & Kashiramka, S. (2022). Impact of intellectual capital on the financial performance of innovation-driven pharmaceutical firms: Empirical evidence from India. *Journal of the Knowledge Economy*, 14, 1052-1076. 10.1007/s13132-022-00927-w.

Haruna, D. (2023). Effect of intellectual capital on performance of multinational companies in Nigeria. *Bingham University Journal of Accounting and Business*, 150-160.

Hermawan, S., Hariyanto, W. & Biduri, S. (2020). Intellectual capital, business performance, and competitive advantage: An empirical study for the pharmaceutical companies. *Quality Access to Success*, 21 (175), 103-106.

Jaradat, Z., AL-Hawamleh, A., Altarawneh, M., Hikal, H., & Elfedawy, A. (2024). The interplay between intellectual capital, business intelligence adoption, and the decision to innovate: Evidence from Jordan. *International Journal of Computing and Digital Systems*, *15*(1), 1375-1389. http://dx.doi.org/10.12785/ijcds/150197

John-Akamelu, C.R. & Iyidiobi F. C. (2018). Intellectual capital and performance of Nigerian banks. *International Journal of Innovative Finance and Economics Research*, 6(1), 60-74.

Kowalska, M.K. (2020) Intellectual capital: ISVA, the alternative way of calculating creating value in agricultural entities—Case of Poland. *Journal of Sustainability*.

Lambe, I., Ame, J., & Dzugwahi, H. (2022). Intellectual and natural capital and firms performance: Evidence from listed multinational companies in Nigeria. *International Journal of Economics, Commerce and Management*, *10*(11), 157-192.

Loo-see, B (2018). Impact of Intellectual Capital on Organisational Performance: Evidence from a Developing Country. *Academy of Strategic Management Journal*, 17(2), 1 – 8.

Muftiasa, A., Wibowo, L. A., Hurriyati, R., & Rahayu, A. (2023). Intellectual Capital and Firm Performance within Telecommunications Industry during the New Normal Era. *E&M Economics and Management*, *26*(1), 126–144. https://doi.org/10.15240/tul/001/2023-1-008

Mukaro, C. T., Deka, A., & Rukani, S. (2023). The influence of intellectual capital on organizational performance. *Future Business Journal*, *9*(1), 31. https://doi.org/10.1186/s43093-023-00208-1

Ofurum, C. O., Onuoha, T. E., & Nwaekpe, U. C. (2018). Intellectual capital reporting and corporate financial performance of quoted firms in Nigeria. *International Journal of Academic Research*, 4(3), 1-24.

Okafor, G.I.A. & Orjinata, H.I. (2023). Intellectual capital investment and corporate sustainability growth: An empirical evidence on listed firms in Nigeria. *IIARD International Journal of Economics and Business Management (IJEBM)*, 9(4), 160-171. DOI 10.56201/ijebm.v9.no4.2023.pg160.171

Omaliko E. L., Mordi K. A. & Uzodimma A. C. (2023). Intellectual capital efficiency and corporate sustainability growth: The Nigerian evidence. *Journal of International Economics and Finance*, 3(1), 1-14

Onyekwelu, U.L., Okoh, J.I., & Iyidiobi, F.C. (2017). Effect of intellectual capital on financial performance of banks in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 5(2), 28-57.

Onyekwelu, U.L & Ubesie, M.C (2016). Effect of Intellectual Capital on Corporate Valuation of Quoted Pharmaceutical Firms in Nigeria. *European Centre for Research Training and Development UK*, 4(7), 50 – 59.

Ovechkin, D.V., Boldyreva, N. & Davydenko, V.A. (2020). Intellectual capital and value: Testing new IC measures in Russia. *Journal of Economic Studies* 4(1), 17.

Pedro, E., Leitão, J. & Alves, H. (2018). Back to the future of intellectual capital research: A systematic literature review. *Managerial. Decision*. (56) 2502–2583.

Shairi, S. A. B., Mohammad, H. S., & Tuyon, J. (2021). Intellectual capital and firm performance: evidence from technology sector in Malaysia. *International Journal of Academic Research in Economics and Management and Sciences*, 10(1), 244–258. DOI:10.6007/IJAREMS/v10-i1/9834

Suzan, L., & Ardiansyah, D. (2023). Good corporate governance, intellectual capital, and operational efficiency: Affect company value. *Jurnal Akademi Akuntansi*, 6(2), 294-311. DOI: 10.22219/jaa.v6i2.27101

Tiwari, R., Vidyarthi, H. & Kumar, A. (2023). Nexus between Intellectual Capital and Bank Productivity in India. *JRFM*, *MDPI*, 6(1), 1-17.

Van, D.H., Vo, L.T.H., Hoang, H.T.T. & Tran, N.P. (2022). The interrelationship between intellectual capital, corporate governance and corporate social responsibility. *Social Responsibility Journal*, 19(6), 1023-1036. DOI: 10.1108/SRJ-06-2021-0238