INTELLECTUAL CAPITAL AND FINANCIAL PERFORMANCE OF LISTED HEALTH CARE FIRMS IN NIGERIA

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Abstract
This study is examines the effect of intellectual capital on financial performance of listed healthcare companies in Nigeria. The study used annual reports and accounts of the sampled companies for the period 2009-2022. Human capital efficiency, structural capital efficiency and capital employed efficiency are used as measures of intellectual capital while return on assets is used as a measure of financial performance. The descriptive statistics, correlation and panel data regression technique are used as methods of data analysis using STATA 12 application package. The study found a significant positive effect between structural capital efficiency and capital employed efficiency on the measure of financial performance. However, human capital efficiency has a negative non-significant effect on return on assets. The study concludes that intellectual capital positively affects financial performance. Furthermore, this study recommends that companies in the healthcare industry should maximize the use of intellectual capital to gain competitive advantage on financial performance.
Keywords: Intellectual Capital, Financial Performance, Human capital efficiency, structural capital efficiency, capital employed efficiency, ROA

Introduction

The main aim of every business or corporation is profit maximization. Financial capital alone is not enough to ensure that a company grows or stays ahead of its competitors; it has to be coupled with good management to effectively use the resources of the organization in order to create value and gain sustainable competitive advantage. Yousoff, Jantan and Ibrahim (2003), maintained that the shift from industrial era to the information and knowledge era has presented firms with strategic challenges thereby making knowledge more productive as a competitive resource in a dynamic environment. The medium for leveraging new information, knowledge, and resources can be achieved through the firm's intellectual capital (IC). Tangible assets such as property, plants, and equipment continue to be important factors in the production of goods and service. However, their relative importance has decreased through time as the importance of intangible assets such as intellectual based assets have increased.

Intellectual capital enables efficient structure, better working environment and supporting organization culture, business processes thus making it a more efficient working process that leads to the realization of business and other activities at lower costs (Rađenović & Krstić, 2017). Intellectual capital has been classified into three components, namely, human capital, structural capital, (Pulic, 2000). Human capital includes the intellectual abilities of the individual employees; structural capital simply consists of processes, methods, intellectual property structure and other intangibles owned by the entity.

The extent of a company's success can be seen from the company's financial performance (Linda, Rasyid & Megawati, 2017). Business performance is an important concept that relates to the manner in which financial resources available to an organization are judiciously used to achieve the objectives of an organization. It is therefore important that organization's performance be measured on a regular basis in order to ensure sustainability (Uadiale & Uwuigbe, 2011). Chigozie, Aga, And Onyia, (2018) maintained that an organizations performance involves the genuine yield or consequences of an organization as estimated results, it involves the real yield or after effects of an organization as estimated against its planned yields (objectives and goals). Thus, Ekwe (2014) believed that intellectual assets of a company in combination with other physical assets of the company, determine the extent that companies can go in terms of their financial performance. For example, intellectual capital can be seen in healthcare companies in the services they provide, their relationship with their customers, suppliers and even the relationships within the organization. The employees use their skills and knowledge in rendering services to their customers in order to achieve the organizations goals.

Statement of the Problem

Intellectual capital belongs to group of assets classified as intangible assets because they represent those innate qualities which cannot be seen or touched but which are indispensable for organizational success and survival. Notwithstanding the fact that there are accounting treatments for acquired intangible assets in the balance sheet, current financial accounting treats IC related costs as expenses which reduce profit on the income statement only in the current accounting periods, rather than being reported as assets on the balance sheet which provides future benefits. As a result, management is denied the relevant and timely quantitative data to be able to take vital decisions (Inyada, 2018).

In addition, Amin and Aslam (2017) opined that in spite of the fact that IC is a strategic resource that increases the performance and creates value, there is still problem with measuring, managing and controlling of IC in an organization. It is not easily available in the financial reports of a business. Measuring IC successfully in monetary terms is a challenge as existing accounting standards followed across the globe does not mandate IC disclosure (Smriti & Das, 2018).

Financial performance is significant in the appraisal of the growth of any business, a high performance reflects the management's effectiveness and efficiency in making use of the company's resources. However, inadequate measurement of intellectual capital can give rise to problems such as low return on capital employed, low return on assets, low earnings and so on (Anuonye, 2014).

The healthcare delivery services in Nigeria, as well as the national health policy, aim at addressing the provision of intensive, effective and efficient healthcare services to the people of Nigeria in order to allow them achieve meritable goals of health standard such that everyone will enjoy such services at all levels of human endeavor (Omoleke & Taleat, 2017). Therefore, provision of timely information aims at combating possible health menace among many other things as an important function of public health (welcome, 2011), making the healthcare industry vital to the survival of any community. Hence, this study examined the effect of intellectual capital on financial performance of healthcare companies listed on the Nigerian stock exchange to find out how intellectual capital effects financial performance.

Several studies were conducted to establish the relationship between intellectual capital and performance. For instance, studies conducted in the banking sector include the studies of (Ekwe 2013; Inyada 2018; Oko, Onodi And Tapang 2018; Ofurum and Aliyu (2018). Similarly, studies in other sectors include the work of Onyekwelu and Ubesie (2016), in the pharmaceutical companies, Apiti, Ugwoke, Chiekezie And Rita (2017), in the food and beverage companies, Chigozie, et al., (2018), in the manufacturing sector and Inyada,

Thankgod, and Shaibu (2019) in the industrial goods companies. The majority of these studies were conducted in the banking sector, with a few others conducted in other sectors. Therefore, this study will investigate the effect of intellectual capital on financial performance of listed healthcare companies in Nigeria.

The main objective of this study is to examine the effect of intellectual capital on financial performance of listed healthcare companies and specifically, the study intends to;

i. Examine the effect of human capital efficiency on financial performance of listed healthcare companies in Nigeria.
ii. Investigate the effect of structural capital efficiency on financial performance of listed healthcare companies in Nigeria.
iii. Examine the effect of capital employed efficiency on financial performance of listed healthcare companies in Nigeria

Research Hypothesis

To attain the objectives of this study, the following hypothesis are formulated in null form to guide the study:

$H0_1$: Human capital efficiency has no significant effect on financial performance of listed healthcare companies in Nigeria.

$H0_2$: Structural capital efficiency has no significant effect on financial performance of listed healthcare companies in Nigeria.

$H0_3$: Capital employed efficiency has no significant effect on financial performance of listed healthcare companies in Nigeria.

Literature Review

Intellectual Capital

Intellectual capital is seen as an intangible asset that is a key contributor to securing a sustainable competitive advantage (Onyekwelu, Okoh & Iyidiobi, 2017). Also, knowledge based intangibles are recognized to be central to the value creation process. Furthermore, Bradley (1997) defined intellectual capital as the ability to combine physical inputs with relatively low intrinsic value into mixtures which potentially are worth significantly more. In a broader view, intellectual capital refers to effort employees put into an entity in form of intangible asset which includes knowledge assets such as patents, trademarks, copy rights and other results of human innovations and thought (Apiti et al., 2017). Ekwe (2013), opines that intellectual capital is an important asset which has not been fully recognized and reported in financial statements but contributes significantly to improved financial performance and transformation of organizations.

Pulic (2000) argued that the value creation processes in businesses has to be measured and documented in order to be able to manage the value creation in the company, optimize its potential and maximize its value in the marketplace. The study further suggested VAIC as a measure for IC. It is composed of the tangible resources efficiency (capital employed efficiency) and intellectual capital efficiency (human capital efficiency and structural capital efficiency).

Human Capital

Ekwe (2014), opined that human capital includes the collective knowledge, competency, experience, skills and talents of people within an organization. It also includes an organization's creative capacity and its ability to be innovative. In addition, Onyekwelu et al., (2017), opined that human capital is interpreted as employee values creating potentials depicted in the knowledge, competencies, skills, experiences, abilities and talents of firm's employees and managers. The main value of human capital is the skill set that an employee gains through education and experience in career path and provide future value to the

organization. This is the basis of other aspects of IC and has indirect effect on performance of an organization. (Emadzadeh, et al., 2013).

Wardini (2015), posited that the way organizations manage human capital determines the value of the asset. Enhanced value by aligning force of human capital with organizational strategy will cause effects human capital to be seen in organizations. Therefore, for organization to get most value from their workforce, human capital is central with its key elements of employee education level, experience and motivation.

Structural Capital

Structural capital is codified knowledge owned by a firm and can be reproduced and distributed among individuals and organizational units within a firm. It involves efficient business processes, managerial philosophy, information technologies and systems, intellectual property, patents, design, brands, data bases, organizational structure, organizational culture, organizational routines and procedures (Rađenović & Krstić, 2017).

Capital Employed

The objective of any business is to create as much value added as possible out of a given amount of investments. Therefore, in measuring intellectual capital, capital employed is added to the existing components of intellectual capital to obtain information on how efficiently this value added has been created, as value added grows out of physical, financial. Thus capital employed interpreted as total assets of a firm (Pulic, 2000). Capital employed represents the value of the physical assets used in the business (Inyada, 2018). Similarly, Palazzi, Sgro, Ciambotti and Bontis (2019), opined that capital employed can be seen as the summation of all company's assets used to create value. Furthermore, capital employed can also be seen as the book value of a firm's net assets (Ekwe, 2014).

Financial Performance

All organizations want to be successful, even in current environment which is highly competitive. Therefore, companies irrespective of size and market strive to be the best and in order to achieve their goals and objectives; organizations develop strategies to increase their performance. Measuring performance is critical to organization's management, as it highlights the evolution and achievement of the organization (Dobre, 2013).

Companies use financial performance measures as the foundation of performance measurement and evaluation purposes (Zuriekat, Salameh & Alrawashdeh, 2011). Financial performance principally reflects business outcomes and results that shows overall financial health of the business over a specific period of time. It shows how well an entity is utilizing its resources to maximize the shareholders wealth and profitability (Naz, Ijaz & Naqvi, 2016). According to Ofurum and Aliyu (2018), financial performance is crucial to any business organizations survival and continues patronage by the stakeholders in the business world. Specifically, financial performance is a natural result of business operations using both physical capital and intellectual capital. Performance can be measures through the return on assets among other ratios. Return on assets is a financial criterion which indicates the amount of management efficiency in applying the existing resources in order to increase the profitability (Apiti et al., 2017). It provides the readers with a measure of the profitability and the effectiveness with which the firm has used their assets (Warrad & Omari, 2015). The ratio expresses the effectiveness of taking earnings advantage of an asset base at its disposal. High values of this ratio are desirable while lower values are undesirable. Higher values suggest that the management has been effective in taking advantage of economic resources to increase returns (Onumah &Duho, 2019).

Empirical Review

Several studies investigated the effects relating to the intellectual capital and performance of firms in various sectors and countries such as the study of Onumah and Duho (2019),

investigated the effect of IC on financial performance of banks in Ghana for the period 2000-2015. HCE, SCE, CEE, ROA, LEV, size, market structure, ownership structure were used as variables. The study used panel corrected standard error (PCSE) regression technique to analyze the data and it was found that there is positive relationship between IC and financial performance. However, HCE has positive and significant effect on performance while CEE has a positive but insignificant effect and sce has a negative but insignificant effect on performance. Equally, Selvam, Thanikachalam, Gopinath, Kathiravan,Vasani, and Dhanasekar (2019), analyze the impact of IC on financial performance of banking in India for the year 2017. HCE, SCE, CEE, tobins-q, ROE, ATO and ROA were employed as variables. The study used regression to analyze the data and it was revealed that IC influences financial performance positively.

Furthermore, Wiagustini et al., (2019), examined the influence of IC on capital structure and financial performance of handy-craft industry in Gianyar, Indonesia for the period 2016-2019. Human capital, S.C, R.C, debt/asset, debt/capital, long-term debt/equity, S.G, profit growth, average profit growths for 3 years, asset growth were adopted as variables. The study employed PLS to analyze the data obtained from distributed questionnaires and it disclosed that there is a positive and significant effect between the components of IC and capital structure and financial performance. In addition, Inyada et al., (2019), studied the effect of IC on financial performance of industrial goods in Nigeria for the period 2008-2018. CEE, SCE, HCE and ROA were used as variables. The study used multiple regressions to analyze the data and found that there is positive significant relationship between CEE and financial performance, also, a positive though statistically insignificant effect between HCE and financial performance and a positive effect between SCE and financial performance.

In addition, Yilmaz and Acar (2018) explore the effects of IC and its components on market value and financial performance of companies listed on the Borsa Istanbul 100 index in Turkey for the period 2011-2014. Capital employed efficiency, human capital efficiency, structural capital efficiency, relational capital efficiency, size; returns on assets, returns on equity, net profit and margin were used as variables to attain the studies objectives. PLS was used to analyze data obtained and it was found that, capital employed efficiency and relational capital value added have significant positive impact on market value while human capital efficiency and structural capital efficiency does not. MVAIC does not have a significant influence on performance. In addendum, Okoye, Offor and Juliana (2019), explored the effect of intangible asset on performance of all quoted companies in Nigeria for the period 2008-2017. ROCE, employee benefit expenses, research and development, goodwill were adopted as variables. The study employed OLS to analyze the data obtained and discovered that R&D and goodwill has significant effect on performance. However, employee benefit expenses have no significant effect on performance.

Furthermore, Abdulrashid, Farooq, Liaqat and Qadeer (2020), examined the effect of intellectual capital on profitability of firms in the food & personal care and the textile sector in Pakistan for the period 2012-2016. The study uses HCE, SCE, RCE and CEE was used as proxies for intellectual capital and ROA and ROE for financial performance. The study employed multiple regression analysis to analyze the data collected and discovered a significant effect between SCE and CEE on ROA while a negative relationship exists between HCE and RCE for food and personal care industry. While for the textile industry, HCE has positive and significant effect on ROA while other variables are not significant. The study also found that only CEE has a positive significant effect on ROE while others variables show no significant impact on ROE.

Moreover, Pendo (2020), examined the effect of intellectual capital on financial performance of service and manufacturing sector in Tanzania from 2010-2019. The study used SG, ROA, Tobins-q and ATO as performance measures and HCE, SCE and CEE as measures for

intellectual capital. Panel regression analysis was used to analyze data collected. The empirical findings demonstrate a significant positive influence between structural capital efficiency and SG, ROA, ATO, and Tobin's. However, the effect of human capital efficiency and capital employed efficiency were negative which suggests poor investment in human skills and capital of the firms.

Also, Yahaya (2021) investigate the effect of intellectual capital management on financial competitiveness in listed oil and gas companies in Nigeria from 2006-2018. The study uses returns on equity, returns on assets and assets turnover as proxies for financial competitiveness and value added intellectual coefficient, capital employed efficiency, human capital efficiency, structural capital efficiency, listing age and firm size for intellectual capital. OLS was used to analyze data collected. The results indicate that the human capital efficiency and capital employed efficiency have significant positive effect on returns on assets while structural capital efficiency has significant negative effect on returns on assets.

From the foregoing, it is noted that intellectual capital is vital in seeking and achieving success of firm's financial performance. Hence, this study aimed at examining the impact intellectual capital has on financial performance of Nigerian Health Sector.

Theoretical Review

Resource based Theory

RBV analyzes and interprets resources of the organizations to understand how organizations achieve sustainable competitive advantage. It focuses on the concept of difficult-to-imitate attributes of the firm as sources of superior performance and competitive advantage resources that cannot be easily transferred or purchased are peculiar to the organization and, therefore, more difficult to imitate by competitors (Barney, 1986). Resources that are valuable, rare, inimitable and non-substitutable make it possible for businesses to develop and maintain competitive advantages, to utilize these resources and competitive advantages for superior performance (Collis & Montgomery, 1995).

Methodology

Research Design

Correlational and *ex post* facto research design is used to establish a statistical relationship between variables with the aim to identify the extent to which a change in one variable affects others in this study. The population of the study consists of all the seven (7) listed companies in the Nigerian healthcare sector and census sampling technique was adopted where the entire population was studied. The study analyzed the data collected from the sample firms for the period of sixteen years (2009 to 2022) using multiple regression to establish the effect of IC on financial performance. These were analyzed using the STATA statistical application package.

Table 1: Variable Measurement

Variable	Measurement	Source
Human capital efficiency (HCE)	Value Added/Human Capital	(Pulic, 2000)
Structural capital efficiency (SCE)	Structural Capital/Value Added	(Pulic, 2000)
Capital employed efficiency (CEE)	Value Added/Capital Employed	(Pulic, 2000)
Return on asset (ROA)	Profit Before Tax/total assets	(Onumah & Duho 2019)
Age	From date of listing	(Yahaya, 2021)
Size	Natural log of total assets	(Yilmaz & Acar 2018)

Source: Researcher compilation 2023

The financial performance measures is a function of five explanatory variables which are: human capital efficiency (HCE), structural capital efficiency (SCE), capital employed efficiency (CEE), age (AGE) and size (SIZE). Therefore, the following model was adapted and modified from the study of (Yilmaz & Acar 2018).

ROA = Ƒ(HCE, SCE, CEE, AGE, SIZE) …….. (1)

The regression models used to determine effect of the independent variables on the dependent variable given as:

$ROA_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 CEE_{it} + \beta_4 AGE_{it} + \beta_5 SIZE_{it} + \varepsilon_{it}$ ……(1)

Where: β_0 = constant

$\beta_{0, \ldots\ldots\ldots} \beta_5$ = the beta factors

ROA = return on assets

HCE= human capital efficiency

SCE= structural capital efficiency

CEE= capital employed efficiency

AGE= age of company

SIZE

ε = error term

i = industry

t = time

Results and Discussion

Descriptive statistics

Table 2 shows the summary statistics of the independent, dependent and control variables of the study. The summary statistics included for analysis are the mean, standard deviation, minimum and maximum values of the variables of the study.

Table 2 Descriptive statistics of variables

Variable	Obs	Mean	Std.dev	Min.	Max.
ROA	70	0.0170	0.1170	-0.3494	0.2730
HCE	70	3.4856	2.4742	0.2301	11.8424
SCE	70	0.2587	0.9851	-3.3450	0.9156
CEE	70	0.2497	0.1361	0.0062	0.5798
SIZE	70	15.5228	1.3816	12.8705	17.5763
AGE	70	28.3	12.8676	1	45

Source: generated by researcher from annual reports of listed healthcare companies

The mean values show the industry average while the standard deviation shows the degree of variation. The minimum and maximum shows the minimum and maximum value for each variable within the industry for comparison to the industry averages.

Correlation Analysis

Correlation shows the relationship between variables. And the sign of the correlation indicates the direction of the relationship while the coefficient of the correlation gives the extent of the relationship between the variables. Table 3 shows the correlation between the dependent and explanatory variables used for this study.

Table 3 Correlation between the variables of the study

	ROA	HCE	SCE	CEE	SIZE	AGE	VIF
ROA	1.0000						
HCE	0.5087	1.0000					3.55
SCE	0.6426	0.6592	1.0000				2.45
CEE	0.6829	0.7113	0.7441	1.0000			2.85
SIZE	0.6808	0.6822	0.5525	0.6011	1.0000		2.03
AGE	-0.3064	-0.6669	-0.4824	-0.5054	-0.3819	1.0000	1.86

Source: generated by researcher from annual reports of listed healthcare companies

The Robustness Tests carried out by this study are; Multicollinearity Test using the VIF, where the results show no presence of multicollinearity (the VIF of more than 5 indicates the presence of Multicollinearity). Heteroskedasticity Test (Hettest),the result indicates no presence of heteroskedasticity with a P-value of 0.1663 and Hausman Specification test chose the fixed effect model over the random effect model with the P-value of 0.0003, and finally the f-test shows the OLS results is best indicated by the F-value of 21.69 and 3.82 for the OLS and fixed effect models respectively . These tests were carried out in order to aid the study reach a valid statistical inference. Normality Test was also carried out using the normal probability plot.

Table 4 Regression result

Variable	Coefficient	P-value
HCE	-0.0118	0.087
SCE	0.0319	0.028
CEE	0.3345	0.004
SIZE	0.4090	0.000
AGE	0.0004	0.715
Constant	-0.6784	0.000
R-square	0.6288	
Adjusted R-square	0.5998	
P-value	0.0000	

Source: generated by researcher from annual reports of listed healthcare companies

The table above shows R^2 of 0.6288 indicates that 62.88% of the variation of returns on asset in the Nigerian healthcare industry is caused by combined effect of human capital efficiency, structural capital efficiency, capital employed efficiency, age and size. The p-value of 0.0000 indicates the fitness of the model at 5% level of significance.

The results further show a negative non-significant relationship between returns on assets and human capital efficiency. This implies that an increase in a unit of HCE will result in a decrease in ROA by 0.0118. The table above also shows a positive significant relationship between ROA and structural capital efficiency, capital employed efficiency and size. While a positive non-significant relationship exists between ROA and age. This is evidenced by the individual P values of the variables implying that an increase in a unit of SCE, CEE, age and size will result in an increase in ROA by the corresponding coefficients.

Hypothesis one (H_1)is accepted because the result shows a non-significant relationship between ROA and HCE evidenced with the P-value of 0.087 while H_2 and H_3 are rejected because of the significant relationship that exists between SCE and CEE with ROA as evidenced with the P-value of 0.028 and 0.004 respectively.

Conclusion

The study examines the effect of intellectual capital on financial performance of listed healthcare companies on the Nigerian Stock Exchange and concludes based on the findings of the study that:

1. The expenses incurred by listed healthcare companies in Nigeria on their employees through salaries, wages and other benefits do not improve their financial performance. This because an increase in the human capital efficiency results in a corresponding decrease in financial performance. Hence listed Nigerian healthcare companies do not utilize their human capital efficiently.
2. The processes, procedures and structures owned by entities in the listed Nigerian healthcare companies assist in improving their financial performance. This shows the importance of structural capital in aiding financial performance of the listed healthcare companies.
3. Improving the capital employed of the listed healthcare companies in Nigeria results in further increase in their financial performance

In view of the conclusions of this study, it is recommended that:

1. The human capital needs the attention management because of its negative association with financial performance. There is the need to improve on the human capital because the workforce of any entity is its greatest asset. This can be achieved through employee motivation by adding a reward system for outstanding performance. Regular payment and incentives (bonuses) to employees should be encouraged. This will promote employee efficiency and productivity. There should also be an ongoing coaching to employees, division of labour which can lead to specialization and improving on the education of the work force.
2. Proper structures, equipment and processes should be ensured by the management to enable swift and efficient work in order to improve financial performance since these structures significantly affect the performance of companies in the healthcare sector. This can be ensured by frequent updates and servicing of equipment, ensuring proper procedures are followed and the procedures reviewed over time to improve them.
3. Managers will increase their firms' financial performance by increasing and maintaining proper financial capital. This can be achieved by reducing costs or increasing sales, monitoring areas that may be having excessive or inefficient costs.

References

Abdurashid, H., Farooq, S., Liaqat, F., Qadeer, A.and Younas, N. (2020). Analising the Impact of Intellectual Capital on Financial Performance of Food and Personalcare and Textile Sectors: A Comparative Analysis. *Pakistan Economic and Social Review, 58(1),* 35-60.

Anuonye, N.B. (2014). Intellectual capital and financial performance of quoted insurance firms in Nigeria. Unpublished doctoral thesis. Babcock business school, Babcock University, Ilishan-remo, Ogun state, Nigeria.

Amin, S., and Aslam, S. (2017). Intellectual Capital, Innovation and Firm Performance of Pharmaceuticals: A Study of the London Stock Exchange. *Journal of Information and Knowledge Management*. *16(2)* 1-20

Apiti, C.U., Ugwoke, R . O and Chiekezie, N. R. (2017). Intellectual Capital Management and Organizational Performance in Selected Food and Beverage Companies in Nigeria. *International Journal of Advanced Scientific Research and Management, 2(1),* 47-58.

Bradley, K. (1997). Intellectual capital and the new wealth of nations II, 8(4). *The new wealth of nations II*, 33-44.

Chigozie, M.P, Aga, C.C, and Onyia, E. (2018). Effect of Human Capital Development in Organizational Performance in Manufacturing Industries in South-East Nigeria. *International Journal of Academic Research in Economics and Management Sciences, 7(3),* 60-78.

Collis, D. and Montgomery, C.A. (1995). Competing on Resources: Strategy in the 1990s. *Harvard Business Review, 73*, 118-128.

Dobre, O. (2013). Employee motivation and organizational performance. *Review of Applied Socio-Economic Research 5(1)*, 53-60.

Ekwe, M.C. (2014). Intellectual Capitals And Financial Performance Indices Of Deposit Money Banks In Nigeria: A Comparative Assessment. *European Journal of Accounting Auditing and Finance Research 2(2)*, 50-62.

Ekwe, M.C. (2013). Effect of Intellectual Capitals on Employee Productivity of Banks in Developing Economies: The Nigeria Experience. *Research Journal of Finance and Accounting 4(11)*, 139-148.

Emadzadeh, Afzali, N., Bagheri, A., Rahimpoor, M., Ezadi, F. and Rahmani, M. (2013). Effect of Intellectual Capital on Firm Performance. *International Journal of Academic Research in Accounting, Finance and Management Sciences 3 (2)*, 98–103.

Inyada, S. J. (2018). Intellectual Capital and Bank Performance in Nigeria: An Empirical Analysis Using Pragmatic Models. *American International Journal of Contemporary Research 8(2)*, 61-68.

Inyada, S.J., ThankGod, U.J. and Shaibu, A.P. (2019). Effect of intellectual capital on financial performance of industrial goods companies in Nigeria. *Lafia journal of economics and management sciences 4(9)*, 50-64.

Linda, M.R., Rasyid, R. and Megawati. (2017). Intellectual Capital and Firm's Performance: An Empirical Evidence from Islamic Bank in Indonesia. *Research Reviews: Journal of Social Sciences, 3(3)* 139-148.

Naz, F., Ijaz, F. and Naqvi, F. (2016). Financial Performance Of Firms: Evidence From Pakistan Cement Industry. *Journal of Teaching and Education 05(01)*, 81–94.

Ofurum, C.O. and Aliyu, A. S. (2018). Intellectual Capital Component And Financial Performance Of Quoted Banks In Nigeria. *International Journal of Advanced Academic Research 4(2)* 24-46.

Oko, J.O., Onodi, B.E. and Tapang, A.T. (2018). Effect of Intellectual Capital Management on Revenue Generation of Listed Commercial Banks in Nigeria. *Journal of Accounting and Financial Management 4 (6)*, 56-81.

Okoye, P.V.C., Offor, N. and Juliana, M.I. (2019). Effect of intangible assets on performance of quoted companies in Nigeria. *International journal of innovative finance and economics research 7(3)*, 58-66.

Omoleke, I.I. and Taleat, B.A. (2017). Contemporary issues and challenges of health sector in Nigeria. *Research Journal of Health Sciences 5(4)*, 210-216.

Onumah, J.M and Duho, K.C.T. (2019). Intellectual capital: Its impact on financial performance and financial stability of Ghanaian banks. *Athens journal of business and economics 5(3)*, 243-268.

Onyekwelu, U. L., Okoh, J.I., and 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. and Ubesie, M.C. (2016). Effect Of Intellectual Capital On Corporate Valuation Of Quoted Pharmaceutical Firms In Nigeria. *International Journal of Business and Management Review 4 (7)*, 50-59.

Palazzi. F., Sgro, F.,Ciambotti, M. and Bontis N. (2019). Technological intensity as a moderating variable for the intellectual capital–performance relationship. *knowledge and process management 27(1)*, 1-12.

Pendo, S. K. (2020). Does investing in intellectual capital improve financial performance? Panel evidence from firms listed in Tanzania DSE. *Cogent Economics and Finance*, 1-26.

Pulic, A. (2000). VAIC™ – an accounting tool for IC management. *Int. J. Technology Management, 20 (5/6/7/8)*, 702-714.

Rađenović, T. and Krstić, B. (2017). Intellectual Capital As The Source Of Competitive Advantage: The Resource-Based View. *Economics and Organization 14(2)*, 127-137.

Selvam, M., Thanikachalam, V., Gopinath, R., Kathiravam, C., Vasani, S.A. and Dhanasekar, D. (2019). Intellectual Capital Performance and its Impact on Indian Commercial Banking Industry. *Journal of Engineering and Applied Sciences*, 2610-2619.

Smriti, N. and Das, N. (2018). The impact of intellectual capital on firm performance: a study of Indian firms listed in COSPI. *Journal of Intellectual Capital 19(5)*, 935-964.

Uadiale, O.M. and Uwuigbe, U. (2011). Intellectual Capital and Business Performance: Evidence from Nigeria. *Interdisciplinary Journal of Research in Business 1(10)*, 49-56.

Wardini, E.L. (2015). The Influence of Human Capital Elements on Performance: Evidence from West Java SMEs. *Journal of Economics and Sustainable Development 6(4)*, 196-201.

Warrad, L. and Omari, R.A. (2015). The Impact of Turnover Ratios on Jordanian Services Sectors' Performance. *Journal of Modern Accounting and Auditing 11(2)*, 77-85.

Wiagustini, N.L.P., Artini, L.G.S. and Ramantha, I.W. (2019). Intellectual Capital As A Basis In Determining The Capital Structure And Financial Performance (Case Study Of Small Handicraft Industries In Gianyar-Bali Regency Indonesia). *International Journal of Economics, Commerce and Management 7(1)*, 86-111.

Yahaya, O.A. (2021). Intellectual Capital Management and Financial Competitiveness of listed oil and gas firms in Nigeria. *Journal of Management Sciences*, 86-96.

Yilmaz, I. and Acar, G. (2018). The Effects of Intellectual Capital on Financial Performance and Market Value: Evidence from Turkey. *Eurasian Journal of Business and Economics 11(21),*, 117-133.

Yusoff, W.F.W., Jantan, M. and Ibrahim, D.S. (2003). Intellectual Capital and Firm Performance: The Moderating Effects of Environment and Strategy. *The International Journal of Knowledge, Culture and Change Management 3(1)*.

Zuriekat, M., Salameh, R. and Alrawashdeh, S. (2011). Participation in Performance Measurement Systems and Level of Satisfaction. *International Journal of Business and Social Science 2(8)*, 159-169.