Intellectual Capital and Firm Performance in Deposit Money Banks in Sub Sahara Africa

Rosemary Edememen Uagbale-Ekatah, Francis Nnoli P. Udeh, Christmas Darlington .I. Ofurum

Department of Accounting, Faculty of Social and Mangaement Sciences,Benson Idahosa University. Benin City, Edo State
Department of Accounting, Management Sciences, NnamdiAzikwe University, Awka, Anambra State.
Department of Accounting/Banking and Finance, Alex Ekwueme Federal University, Ebonyi State

ABSTRACT
This research investigated the effect of intellectual capital on firm performance of deposit money banks in Sub Sahara Africa. The objective of the study sought to evaluate the extent to which intellectual capital affects firm performance proxy by Earnings per Share (EPS) and Cashflow ratio (CFR). The population of study was listed banks in the stock exchange of Nigeria, South Africa, Kenya and Mauritius which amounted to forty two listed banks. Purposive sampling technique was used to draw a sample of twenty four banks in order to meet the criteria for this research. Secondary source was employed to obtain necessary data through corporate website and annual publications of selected countries from 2012 - 2020. Analysis was carried out using multiple regression technique and SPSS software. Findings revealed that intellectual capital has negative and insignificant effect on earnings per share of all countries understudied. Conversely, there was a positive and significant effect of intellectual capital on cashflow ratioin all four countries. We therefore recommend that the development of intellectual capital be built into the annual growth strategies in order to balance corporate strategy with appropriate resource requirement.
Keywords: Value Added Intellectual Coefficient, earnings per share and cash flow ratio

I. INTRODUCTION

The growth of an intellectually dense environment in recent years has drawn a lot of attention to the role of intellectual capital in the establishments of Ofurum, Onuoha, and Nwaekpe (2018). Economic progress has resulted in significant changes in an entity's activities in global markets, according to Nassar (2018). The current position requires businesses to spend in enhancing their intellectual capital assets as well as making provisions for correct reporting, despite the fact that no current law requires such disclosure. However, because the disclosure of intellectual capital is a requirement of corporate governance, and because intellectual capital is linked to corporate governance, the disclosure of intellectual capital is critical in the application of corporate governance. Intellectual capital disclosure is valuable information for suppliers, lenders, and shareholders when making decisions that require consideration of the company's future prospects in order to mitigate risk.The disclosure of intellectual capital allows for an informed assessment of the company's worth. BukhBukhBukhBukh B (2013). A fierce competition among firms both locally and internationally, as well as an increase in the number of publicly traded companies, has driven business owners to be more resourceful and organized in their operations. As a result, entities that adhere to corporate governance principles are more likely to have a competitive advantage as a result of their disclosure of intellectual capital information, especially since intellectual capital is a non-tangible asset.

Ante Pulic brought out one of the earliest studies on the impact of intellectual capital on corporate performance in 1998. Ante Pulic (1998) created the Value Added Intellectual Coefficient (VAIC) for measuring the efficiency of intellectual capital by both academics and firms, regardless of industry type, because efficient use of intellectual capital resources improves business capabilities.

Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Capital Employed Efficiency (CE) are the three elements of intellectual capital classified by the VAIC method (CEE). Organizations and researchers appear to place a greater emphasis on CEE and HCE, while SCE receives less attention, making the assessment and use of the VAIC model incomplete. The VAIC approach is recognized as the most appropriate measure of Intellectual Capital in measuring an organization's ability to use its resources in both commercial and public sectors of society, according to Kamath.However, empirical research shows that few studies have used this method to measure intellectual capital, such as Firer and Williams (2003) and Musfiqur, Raihan, and Shafiqul (2020). Because of the implicit relationship it has with company success, the implementation of improper techniques could be harmful to commercial organizations. Ting and Lean (2009) also looked at intellectual capital and its relationship to financial institution performance in Malaysia over a ten-year period. The findings revealed that in the financial sector, intellectual capital performance and firm performance are inextricably linked. In addition, Nimtrakoon (2015) found evidence in Asia that companies with more IC have higher market value and better financial performance. This necessitates the use of both internal and external indicators of company performance in research, as well as comparative evidence across nations, particularly in Sub-Saharan Africa, where intellectual capital is given less attention.

Many authors have diverse perspectives on intellectual capital. As a result of the diversity of viewpoints, businesses and organizations are unsure of what constitutes intellectual capital as a concept. Measuring the performance of intellectual capital over time has become a critical challenge for businesses (Rahim, Atan&Kamaluddin, 2016). Different measuring criteria were utilized in various studies, such as Braendle, Farah, &Balian (2017); Huihui&Jitian (2010); Kasonga&Elgammal (2020), and so on. According to Kamath, the Value Added Intellectual Coefficient (VAIC) approach is the most appropriate technique for measuring the performance of organizations in both the commercial and public sectors (2007). However, it should be emphasized that several previous studies have neglected to use the VAIC model.Despite the VAIC model's limited use, many previous research were reported to have utilised primary data. A few more research used the system generalized approach of moment estimator, which is characterized by omission of variables, according

to Waller &Tomarken (2005). Furthermore, some researchers employed a sample size of only two to four organizations (Rehman, Rehman, Rehman&Zahid (2012)), while others utilized an overloaded sample size of 1456 companies (Aslam, Ahmad, Amin &Arif (2018)), raising concerns about the study's methodology and data trustworthiness. Further research was required to close these gaps in order to improve organizational decision-making. The purpose of this study was to fill in the gaps by applying the VAIC model to estimate intellectual capital using secondary data and a more accurate technique while adjusting for the influence of other variables which some studies failed to do Pirjo& Ahmed (2008); Suresh (2018); Nassar (2020).

Although there have been studies on intellectual capital and firm performance, they have primarily come from other continents. As a result, there is a need to expand the literature on intellectual capital and company performance from an African viewpoint, according to Tan, Plowman, and Hancock (2007). As a result, this study investigated this oddity and went on to compare outcomes in a number of nations. Ali (2018) did a similar comparative analysis in the past, but the focus of the research was on corporate governance, with intellectual capital receiving less attention. Suresh (2018) also conducted a comparative analysis, but this time focusing on Asian and American countries. Making decisions based on the findings of research conducted in nations with different economic, political, social, and moral formations could have negative consequences, thus it's critical that this gap be addressed; our current study was designed to achieve just that.Specifically, the study ascertained;
1. The extent to which Value Added Intellectual Coefficient affects earnings per share.
2. The effect of Value Added Intellectual Coefficient on cash flow ratio.

II.   REVIEW OF LITERATURE
Intellectual Capital
Despite the fact that the concept of intellectual capital has been at the forefront of institutional and academic research for decades, it is still a relatively new topic that requires more attention due to its significance and function in organizational and economic development. In 1969, Jon Kenneth Galbraith established the notion of intellectual capital, which drew increasing attention from both professionals and academics over the next two decades. Edvinsson (1997) went on to define IC from a completely different perspective; his literature defined IC as the sum

total of all the people in a company's discernment, and everything can be changed into importance. Ezejiofor, Nwakoby, and Okoye (2015) reported that Human Resource Management has an impact on the performance of a corporate organization, according to the findings of this study's investigation.Employee knowledge is included in the definition of intellectual capital in this case. Stewart (1997), on the other hand, maintains that IC is knowledge and information.According to him, IC, as knowledge and information, is critical in generating the value added efficiency required for a firm's wealth creation. Two years later, a new research defined IC as "knowledge that may be converted into income through the development of non-monetary and non-physical resources other than the company's physical resources," according to Sullivan (2019). This could be seen as implying ingenuity and invention. If intellectual capital is defined as the ability to innovate and create, the quest for the human individuals who are the carriers of these abilities begins. El-Bannany (2008) used a covering period of 1999 to 2005 to measure the IC performance of UK banks in his study. He believes that in the United Kingdom, bank productivity is concentrated on human capital, suggesting that resourceful banks invest more in Human Capital Efficiency (HCE). Prior to the work of Sullivan (1999) and others, there was a previous study.As a result of Brooking's (1996) definition, the human factor can now be included as an IC. This definition went on to emphasize the mental output of creativity and innovation as a component of intellectual capital that can be protected by a copyright, giving IC a broader definition. Pulic (1998) defined IC as the sum of human capital, structural capital, and capital employed. Despite the fact that this viewpoint differs greatly from that of others, research has shifted its focus over time to recognize these as actual components of intellectual capital. In this study, we use Pulic's (1998) definition of IC to define it as a company's investment human capital, structural capital, and capital employed. The value added intellectual coefficient (VAIC), which was used to assess intellectual capital, is the sum of these three capital (IC).

Value added intellectual co-efficient (VAIC) Model

Tobin's Q, the Skanadia Navigator, the Intangible Assets Monitor, the balanced scorecard procedures, market capitalization methodologies, and the VAIC model are some of the different methods and models used to determine IC. The VAIC model (Ho & Williams (2003); Xu& Liu (2003)) is the most extensively utilized in practice, according to Public (1998). (2019). VAIC generates capacities that are calculable, impartial, and measurable, free of any prejudice in the classification and presentation of marks or measures. It aids in the calculation and numerical analysis of a large sample scope that may contain a large number of data substances retrieved over a period of time.

Some past studies that have investigated the interaction among the VAIC model and firm performance reveal that intellectual capital measured by VAIC model adds to the cost-effectiveness, productivity and returns on shareholders' fund of firms, Firer &Stainbank (2003); Ting & Lean (2009); Ahangar (2011); and Ali (2018).

VAIC is the totality of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) Pulic (1998).The model is stated as follows;

VAIC = CEE+HCE+SCE

Human Capital Efficiency (HCE)

In today's business world, assessing human capital as part of a company's resources is a must-have concern for companies, as it may help them gain a true perspective on human capital. Rahim, Atan, and Kamaluddin are all members of the Rahim, Atan, and Kamaluddin (2016). Modernization, ability, resourcefulness, proficiency, expertise and prior knowledge, cooperation ability, worker tractability, broad-mindedness for uncertainty, passion, and fulfillment, ability to learn, reliability, acknowledged preparation and instruction are all examples of human capital. Ting and Lean are a couple (2009).

Structural Capital Efficiency (SCE)

Structural Capital is an additional element of IC. Structural Capital is termed as a store of information other than human capital, this consist of information technology, trademarks, patents, and strategies, that are represented by databanks, system software and hardware, and company's organogram Al-Zoub (2013). SC reveals an entity's abilities, techniques, methods, patents, values, etc. Ahangar (2011).

Structural Capital Efficiency (SCE) = Structural Capital / Value Added

Thus;

SCE = SC / VA

Capital Employed Efficiency (CEE)

Capital employed is regarded as the worth of the resources that contributes to a business ability to generate revenue also recognized as working resource Kurfi, Udin&Bahamman (2017).

Lina (2014) viewed a strong relationship among capital employed which supports information tied up in connection between agents, clients, dealers, collaborators amongst others, have a tendency to speedy procedure and growths, enhanced reasoning which helps to increase management conveyance efficiency as well as client contentment. The CEE ratio is used to calculate the total value added to the worth of resources and wages in the company's books.

Firm performance

Performance measurement is a technique of evaluating the efficacy of a company's initiatives in reaching the company's overall goal on a regular basis. Firm performance is defined by Aboody& Lev (2000) as a compound valuation of how efficiently and effectively the organization's management has used the resources entrusted to them. Profit performance (internal measure) and market performance are two different dimensions of firm performance (external measure). In order to analyze the relationship between company performance and IC, many scholars have used various performance indicators.

Earnings per share and cash flow ratio were used as performance indicators in this study.**Earnings per Share (EPS)**

Earnings per share (EPS) is an important monetary indicator that demonstrates a company's viability. Because shareholders are incentivized to raise investment in their company's shares, a higher level of EPS equals more value. It informs investors about a company's higher profitability in relation to its stock price. It is calculated by dividing a company's net income by the total number of remaining shares. Earnings are profits after taxes that can be attributed to common stock. Intellectual Capital has a significant impact on financial values, particularly through the income of businesses. Ubesie&Onyekwelu (2016). The correlation between intellectual capital and firm performance was found to be positive in a study conducted by Rehman, Rehman, Rehman, and Zahid (2011). Nassar (2018) and Aslam and Zaman (2015) conducted studies that corroborated this relationship.

Cashflow Ratio (CFR)

The cash flow ratio is used to determine how many times a company can settle its commitments using cash inflow within a given period. As a denominator of the firm's current liabilities, we mean the operating cash flow ratio, which measures the amount of cash a firm generates from its operations after deducting administrative and distribution expenses. Many studies that have been undertaken to determine the

relationship between intellectual capital and performance have neglected the use of the cash flow ratio as a performance evaluation variable. The loop-sidedness of the results could also be attributed to the regular usage of repeated and common variables. To my knowledge, only the research of Murni, Yurniwati, and Rizal (2015) has analyzed this relationship using cash flow measurements, and the study's findings confirmed the presence of a strong positive link.This study chooses to use this ratio due to the noted gap and the assertion by Peavler (2019) that CFR determines a company's financial strength and focuses on how solvent, liquid and viable the company. Thus, when measuring firm performance, selected measures are expected to look beyond just the financial performance of firms.

Firm Attributes

Attributes which are peculiar to a company including its corporate governance mechanism have both been noted to influence its financial performance and extent of intellectual capital investment and disclosure Pervan&Visic (2012). Firm size is used to moderate variables in this study.

Firm Size

Firm size denotes the entire asset of a business entity comprising of book value of both current and non-current asset. The size of a firm has an impact of IC on performance of firm (Nimtrakoon, 2015). Shafana, Fathima and Inun (2013) investigated the manner of projected inventory values regarding the usual characteristics of a firm, its size and book-to-market equity in Sri Lankaand findings reveal that firm size has insignificant positive effect on expected stock values.

III. THEORETICAL FRAMEWORK
Resource Based View

Edith Penrose, an economist, proposed the resource based perspective, often known as the resource based view (RBV), to organizational management in 1959. Intangible assets are the most essential resource in an organization, according to this notion, and they must be properly maintained and managed in order to gain a competitive edge. This theory's main focus is on gaining a competitive advantage over the company's competitors as well as a broad range of financial performance that has yet to be achieved solely through the use of planned funds. RBV views businesses as a collection of resources, mostly intangibles. Barney is a character in the film Barney (1991). The resources that are more

important for competitive advantages are those that are valuable, uncommon, unique, and cannot be replaced. According to established resource-based theory, any establishment's resources are unique and cannot be replicated(Gray, Marr, and Neely, 2003).

This study is also anchored on this theory because Intellectual Capital as quite a new area is a strategic resource, which can be employed to attain competitive advantage and enhanced performance (Marr, Gray & Neely, 2003).The competence and know-how possessed by the employees are considered a valuable asset that could make a company stand out among its competitors and also yield profitable returns for the business. Thus by the RBV, companies are encouraged to spend in all components of intellectual capital to achieve improved performance. Subsequently, company's aggressive willingness to compete results from possessing resources that cannot be imitated and are of value, to equip the firm to achieve an advantageous competitive place with view to retain its status in the market and attain greater performance Xu& Liu (2020), intellectual capital investment should be at the fore front of organizational strategies. IC has consequently, become a foremost component for all entities, particularly those in the knowledge based environment, in producing their distinctive capability and attaining organizational goals Wang (2008). This study is anchored on resource based view theory.

Methodology

This study adopted ex-post facto research design to evaluate the effect of intellectual capital on firm performance.The population includes 12 banks from Nigeria, 6 banks from South Africa, 10 banks from Kenya and 14 banks from Mauritius amounting to 42 banks in total.

This study adopted purposive sampling technique in selecting from the population, the banks with complete and accessible financial statement for the periods 2012 – 2020 and also based on licensed banking model only six banks were selected from each of the four countries to meet our sample criteria. This study relied only on secondary data sources as it utilized documented records for the period of nine years 2012 – 2020, for the different countries under study.

Table 1: Description of Variables

Variables	Definition	Type	Measure	Adapted/Adopted from
EPS	Earnings per share	Dependent	Net income – preferred dividends/ average outstanding common shares.	Onyekwelu and Ubesie (2016)
CFR	Cash flow ratio	Dependent	Net cash flow from operating activities /Total liabilities	Murni, Yurniwati and Rizal (2015)
VAIC	Value added intellectual coefficient	Independent	CEE+HCE+SCE CEE= capital employed efficiency HCE= human capital efficiency SCE = structural capital efficiency	Pulic (1998)
FZE	Firm size	Control	Natural log of total asset	Nimtrakoon (2015)

Source: Researcher's Compilation (2021)

Notes:
1. We used Net income for EPS to suit the disclosure pattern of banks.
2. We used total liabilities to measure for CFR instead of Current liabilities because most of the banks studied failed to separate their current liabilities from non-current liabilities.
3. We used total asset for FZE because almost all the banks studied failed to disclose current asset as different from non-current assets but presented total asset as a line disclosure.
4. HCE = revenue – cost of revenue divided by salaries and wages
5. CE = book value of the net assets of firms
6. VA = Value added on companies represented as output less input. (revenue – cost of revenue.)

7. SCE = revenue – cost of revenue – salaries and wages divided by salaries and wages

This study employed multiple regression technique as the method for data analyses. When the P-value is less than 5% significant level, it therefore implies that, a variable is significant and the null hypothesis is consequently rejected.

Presentation of Data and Analysis

Table 2: Comparative descriptive statistics for banks in Nigeria, South Africa, Kenya and Mauritius.

| | Minimum | | | | Maximum | | | | Mean | | | |
| | Statistic | | | | Statistic | | | | Statistic | | | |
	Nigeria	SA	Kenya	Mauritius	Nigeria	SA	Kenya	Mauritius	Nigeria	SA	Kenya	Mauritius
EPS	-.01	.00	.00	.00	43.10	76.29	42.78	21.78	9.8815	26.9526	12.8322	3.9796
CFR	.01	.00	.00	.00	.16	.18	.12	.08	.0696	.0517	.0448	.0217
VAIC	1.17	.83	1.43	1.37	12.16	5.29	6.98	6.51	4.5602	2.3543	2.7952	3.1928
FZE	20.45	6.18	5.16	3.87	27.68	39.12	39.54	32.12	23.4115	15.3007	16.8587	12.0070

Source: Researchers' computation (2021)

Keys: EPS = Earnings per share, CFR= cash flow ratio, VAIC= value added intellectual capital, FZE = firm size.

Correlation analyses

Table 3: Correlation Analysis for Nigeria

	EPS	CFR	VAIC	FZE
EPS	1			
CFR	-.024	1		
VAIC	-.143	.044	1	
FZE	.087	.197	.079	1

Table 4:Correlation analysis for South Africa

	EPS	CFR	VAIC	FZE
EPS	1			
CFR	.222	1		

VAIC	.010	.090	1	
FZE	.439**	.028	.009	1

Table 4. above indicates the relationship among our variables of study in South African banks over the study period

Table 5:Correlation analysis for Kenya

	EPS	CFR	VAIC	FZE
EPS	1			
CFR	.124	1		
VAIC	-.141	.031	1	
FZE	.138	-.115	-.033	1

Table 5 above shows the relationship among the variables of study for banks in Kenya

Table 6Correlation analysis for Mauritius

	EPS	CFR	VAIC	FZE
EPS	1			
CFR	.117	1		
VAIC	-.044	.194	1	
FZE	.020	.354**	.010	1

Table 6 above indicates the relationship among our variables for banks in Mauritius.

Table 7: multiple regression analyses result for banks in Nigeria (Nig), South Africa (S.A), Kenya and Mauritius (Maur) based on EPS.

Coefficients[a]

Model	Unstandardized Coefficients B				Std. Error				Standardized Coefficients Beta				T				Sig.			
	Nig	S.A	Kenya	Maur	Nig	S.A.	Kenya	Maur	Nig	S.A	Kenya	Maur	Nig	S.A.	Kenya	Maur	Nig	S.A	Kenya	Maur
Constant	28.04	45.04	22.49	10.46	12.50	44.07	29.60	10.53					0.24	1.02	0.76	0.99	0.80	0.31	0.45	0.32
CEE	-70.77	3.99	-1.01	-0.77	36.27	3.57	3.33	0.62	-.08	0.14	-0.03	-0.18	-.51	1.11	-0.30	-1.24	0.60	0.26	0.76	0.22
HCE	-4.98	-1.97	5.63	-0.35	4.84	3.88	5.06	2.24	-.15	-0.06	0.14	-0.02	-1.02	-0.50	1.11	-0.15	0.30	0.61	0.27	0.87
SCE	-0.84	-12.57	-0.37	2.78	8.15	8.22	1.56	1.46	-.01	-0.20	-0.03	0.26	-.10	-1.52	-0.23	1.90	0.91	0.13	0.81	0.06
FZE	2.40	1.32	0.29	0.00	3.68	0.38	0.17	0.12	.09	0.45	0.22	0.00	0.65	3.45	1.68	0.04	0.51	0.00	0.09	0.96

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
Nigeria	.216[a]	.047	-.075	60.61508	.047	.383	6	47	.886	2.004
South Africa	.536[a]	.287	.196	15.62848	.287	3.151	6	47	.011	1.674
Kenya	.542[a]	.293	.203	9.99864	.293	3.253	6	47	.009	0.980
Mauritius	.323[a]	.104	-.010	4.87365	.104	.911	6	47	.495	1.199

a. Predictors: (Constant), FZE, SCE, HCE, CEE **Source**: computation using SPSS 21
b. Dependent Variable: EPS

Nigeria EPS = 28.04 – 70.77HCE - 4.98SCE – 0.84CEE+ 2.40FZE
South Africa EPS= 45.04 + 3.99HCE – 1.97SCE – 12.57CEE+ 1.32FZE
Kenya EPS = 22.49 – 1.01HCE+ 5.63SCE – 0.37CEE+ 0.29FZE
Mauritius EPS = 10.46 – 0.77HCE– 0.35SCE + 2.78CEE+ 0.00FZE

Table 8: Multiple regression analyses result for banks in Nigeria (Nig), South Africa (S.A), Kenya and Mauritius (Maur) based on CFR.

Coefficients[a]

Model	Unstandardized Coefficients B				Std. Error				Standardized Coefficients Beta				T				Sig.			
	Nig	S.A	Kenya	Maur	Nig	S.A	Kenya	Maur	Nig	S.A	Kenya	Maur	Nig	S.A	Kenya	Maur	Nig	S.A	Kenya	Maur
Constant	-3.48	0.07	0.23	0.01	4.08	0.11	0.07	0.09					-0.85	0.60	3.18	0.44	0.39	0.54	0.00	0.65
CEE	3.18	0.00	0.00	0.00	4.94	0.00	0.00	0.00	0.09	0.14	0.02	0.13	0.64	0.99	0.17	0.91	0.02	0.02	0.00	0.03
HCE	0.17	-0.00	0.01	0.00	0.17	0.01	0.01	0.01	0.15	-0.07	0.17	0.03	1.01	-0.47	1.25	0.22	0.01	0.63	0.01	0.02
SCE	-0.26	0.01	0.00	0.01	0.29	0.02	0.00	0.01	-0.13	0.08	-0.11	0.17	-0.90	0.56	-0.82	1.28	0.37	0.05	0.01	0.01
FZE	0.23	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.25	0.03	-0.18	0.34	1.73	0.22	-1.35	2.51	0.09	0.82	0.18	0.02

a. Dependent Variable: CFR

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
Nigeria	.296[a]	.088	-.029	2.19883	.088	.753	6	47	.611	2.029
South Africa	.218[a]	.047	-.074	.04144	.047	.390	6	47	.882	1.851
Kenya	.449[a]	.202	.100	.02457	.202	1.983	6	47	.087	2.220
Mauritius	.428[a]	.183	.079	.01746	.183	1.757	6	47	.129	1.720

a. Predictors: (Constant), , FZE, SCE, HCE, CEE   Source: Researchers' computation 2021
b. Dependent Variable: CFR

Nigeria CFR = -3.48+3.18HCE+0.17SCE − 0.26CEE+0.23FZE

South Africa CFR = 0.07+0.00HCE − 0.00SCE + 0.01CEE+0.00FZE

Kenya CFR = 0.23+ 0.00HCE+0.01SCE +0.00CEE+0.00FZE

Mauritius CFR = 0.01+0.00HCE+0.00SCE +0.01CEE+0.00FZE

IV. DISCUSSION OF RESULTS

Objective One: To evaluate the extent to which Value Added Intellectual Coefficient affects Earnings Per Share.

One of the variables used to assess the financial performance of banking sectors in the countries studied was earnings per share (EPS). Human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency were used to calculate the Value added intellectual co-efficient (VAIC) (CEE). According to the regression results for Nigeria, South Africa, Kenya, and Mauritius, the VAIC cannot be considered a determinant variable for changes in the EPS of banks in those countries. Because all of the countries had P-values larger than 0.05, we concluded that the Value Added Intellectual Coefficient has no effect on earnings per share. This result is quite similar to Haman's (2018) findings, which likewise revealed no significant association.

However, our study result here contradicts some previous studies that have reported the presence of significant effect of VAIC on EPS. This includes the studies of Tandon, Purolit and Tando (2016), Linda, Rasyid and Mugawatis (2017), Nassar (2018). Other contradictory studies are Barkat and Loo-see (2018) and Nassar (2020).

Objective Two: To examine the effect of Value Added Intellectual Coefficient on cash flow ratio.

One of the factors used to assess the financial performance of banking sectors in the nations studied was the cash flow ratio (CFR). Human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency were used to calculate the Value added intellectual co-efficient (VAIC) (CEE). The data suggest that VAIC is responsible for the majority of changes in CFR in Nigeria, South Africa, Kenya, and Mauritius, while the effect is more pronounced in Kenya and Mauritius. In other words, our research discovered that the Value Added Intellectual Coefficient has a considerable impact on the cash flow ratio. This finding is consistent with that of Bakat and Loo-see (2018) and Wang, Cai, Liang, Wang, and Xiang (2018), who found that VAIC

components are positively connected to innovation pace and quality, which in turn improves firm operational performance. Other studies that corroborate this conclusion include the findings include the research outcome of Tran, Vo and Ntim (2020). Although only a few studies have attempted measuring performance in relation to IC using CFR, none of these few studies have reported negative or insignificant effect.

V. CONCLUSION

With the noticeable expansion in the use of technology in business organizations, the transition of global corporate business practice into a knowledge-based economy has produced a requirement that proper attention be given to intellectual capital. This is due to the fact that these technologies are controlled by people, who make up human capital, which is a subset of intellectual capital. The effectiveness of technological gadgets, as well as the overall success of the corporate organization, is influenced by personnel quality. As a result, intellectual capital serves as a foundation for measuring corporate success. As a result, this study suggests that intellectual capital, as assessed by VAIC, has an impact on deposit money bank performance in the nations studied using the cash flow ratio. Despite the fact that VAIC was found to have no substantial influence on earnings per share based on the analysis, the importance of investing in intellectual capital was not lost.

VI. RECOMMENDATIONS

Findings revealed that VAIC has a negative and insignificant effect on EPS in the selected countries; as a result, this study recommends that banks invest in the components of intellectual capital, particularly human capital efficiency. This is because, as revealed in the study, HCE is overused most of the time in Nigeria, implying that a balance must be established by bank management by creating more employment opportunities in order to avoid unemployment.

Despite the fact that VAIC has a strong favorable influence on CFR in Nigeria, South Africa, Kenya, and Mauritius, As a way of balancing corporate strategy with appropriate resource requirements, bank management teams should incorporate intellectual capital development and growth into their annual growth strategies.

REFERENCES

[1]. Aboody, D. & Lev, B. (2000). Information asymmetry, R&D and insider gains'. Journal of Finance, 55(6), 2747-2766.

[2]. Ahangar, R. G. (2011). The relationship between intellectual capital and finance performance: An empirical investigation in an Iranian company. African Journal of Business Management, 5 (1), 88–95.

[3]. Ali,M.,(2018).Impact Of Corporate Governance On Firm's Financial Performance (A Comparative Study Of Developed And Non Developed Markets). Journal of Business Management and Economic Research,2(1), 15-30.

[4]. Al-Zoubi, M. R. (2013). The Impact of Intellectual Capital on SWOT Analysis among Jordanian Banking Industry: Empirical Study. International Journal of Business and Social Science, 4(2), 34 – 41.

[5]. Arslan, M. &Zaman, R. (2015). Intellectual Capital and its Impact on Financial Performance: A Study of Oil and Gas Sector of Pakistan. International Letters of Social and Humanistic Sciences, 43, 125-140.

[6]. 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: Evidence from Australian Listed Companies. Pakistan Journal of Commerce and Social Sciences, 12 (1), 283-308.

[7]. Barkat, W &Beh, L. (2018). Influence of Intellectual Capital Dimensions on Knowledge Process Capability and Organizational Performance. Asian Journal of Scientific Research, 11, 308-318.

[8]. Barney, J. (1991). Firm resources and sustainable competitive advantage. Journal of Management,17(1), 99-120.

[9]. Braendle, U., Farah, A., &Balian, P. (2017). Corporate governance, intellectual capital and performance: Evidence from the public sector in the GCC. Risk Governance and Control: Financial Markets & Institutions, 7(4),23-29.

[10]. Bukh, P. N. (2013). The relevance of intellectual capital disclosure: A paradox? Accounting, Auditing & Accountability Journal, 16(1), 49–56.

[11]. Edvinsson, L. (1997). Developing intellectual capital at Skandia. Long Range Planning,30, 366-373.

[12]. Ezejiofor, R. A.,Nwakoby N. P. &Okoye, J.ane F. N. (2015). Appraisal of Human Resources Management in a performance of Nigerian business Organizations.International Journal of Advanced Research3(10) , 922 – 928

[13]. Firer, S. &Stainbank, L. (2003).Testing the relationship between intellectual capital and a company's performance: evidence from South Africa. Meditari Accountancy Research,11 (1), 25-44.

[14]. Firer, S. & Williams, S. M. (2003). Intellectual capital and traditional measures of corporate performance. Journal of Intellectual Capital, 4(3), 348-360.

[15]. Hamdan, A. (2018). Intellectual capital and firm performance: Differentiating between accounting-based and market-based performance. International Journal of Islamic and Middle Eastern Finance and Management,11(1), 53 – 62.

[16]. Kaguri, A. W. (2013). Relationship between Firm Characteristics and Financial Performance of Life Insurance Companies in Kenya. Master's Thesis Submitted to University of Nairobi.

[17]. Kamath, G. B. (2007). The intellectual capital performance of the Indian banking sector. Journal of Intellectual Capital, 8(1), 96–123.

[18]. Kamath, G.B. (2019). Impact of corporate governance characteristics on intellectual capital performance of firms in India. International Journal of Disclosure in Governance, 16, 20–36.

[19]. Kasoga, P.S. &Elgammal, M.M. (2020). Does investing in intellectual capital improve financial performance? Panel evidence from firms listed in Tanzania DSE. Cogent Economics & Finance, 8, (1), 802 – 815.

[20]. 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..

[21]. Linda, M. R., Rasyid, R. &Mugawati, M. (2017). Intellectual Capital and Firm's Performance: Empirical Evidence from Islamic Bank in Indonesia. International Journal of Social Science and Humanity, 6(7), 514-518.

[22]. Marr, B., Gray, D., & Neely, A. (2003). Why do firms measure their intellectual capital? Journal of Intellectual Capital, 4 (4), 441–464.

[23]. Mule, A.N., Mukras, S., &Nzioka, E. (2015). Corporate Characteristics and Market Value: A. Study of Listed Firms in

Kenya. Journal of Banking and Finance, 30(4), 1065-1102.

[24]. Murni, H., Yurniwati, A.& Rizal, P. (2015). The effect of intellectual capital to value relevance of accounting information based on PSAK Convergence of IFRS (manufacturing firms in Indonesia). Proceedia - Social and Behavioral Sciences, 211, 999-1007.

[25]. Musfiqur, R., Raihan, S. &Shafiqul, I. (2020).The Impact of Intellectual Capital Disclosure on Firm Performance: Empirical Evidence from Pharmaceutical and Chemical Industry of Bangladesh. The Journal of Asian Finance, Economics and Business, 7 (2), 119-129.

[26]. Nassar, S. (2018). The impact of intellectual capital on firm performance of the Turkish real estate companies before and after the crisis. European Scientific Journal January 2018 edition, 14 (1), 29-45.

[27]. Navaneethakrishnan K.(2019). A knowledge-based theory of the firm: Nexus of intellectual capital, productivity and firms' performance. International Journal of Manpower, 40(6), 1056-1074.

[28]. Nimtrakoon, S. (2015). The relationship between intellectual capital, firms' market value and financial performance: Empirical evidence from Asia. Journal of Intellectual Capital, 16 (3), 587–618.

[29]. 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 Advanced Academic Research and Business Development & Management, 4(2),1 – 24.

[30]. Onyekwelu, U. L. &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.

[31]. Peavler, R. (2019). Calculate the Solvency, Liquidity, and Viability of your Firm: Important Ratios for Cashflow Analysis. The Balance SMB, Business Finance. Retrieved on 10th April 2021 from http//:www.investopedia.com.

[32]. Pervan, M. &Visic, J. (2012). Influence of firm size on its business success. Croatian Operational Research Review, 3, 235-248.

[33]. Pirjo S. & Ahmed, B. (2008). Understanding dynamics of intellectual capital of nations. Journal of Intellectual Capital, 9(2), 164 – 177.

[34]. Pulic, A. (1998). Measuring the Performance of Intellectual Potential in Knowledge Economy. Retrieved on 26th March 2021 from http//:www.vaic-on.net.

[35]. Rahim, A. ,Atan, R., &Kamaluddin, M. (2016). Human capital efficiency and firm performance: an empirical study on Malaysian technology industry.SHS Web of Conferences 36 (26), 1 – 11.

[36]. Rehman, M., Rehman, C.A., Rehman, H. &Zahid, A. (2011). Intellectual capital performance and its impact on corporate performance: empirical evidence from Moradabad sector of Pakistan. Australian Journal of Business and Management Research, 1 (5), 8-16.

[37]. Stewart, T.A. (1997). Intellectual Capital: The New Wealth of Organizations, Nicholas Brealey Publishing, London.

[38]. Sullivan, P. H. (2019). Profiting from intellectual capital. Journal of Knowledge Management, 3(2), 132–143.

[39]. Suresh, M. A. (2018) . Impact of corporate governance on firm's financial performance (A comparative study of developed and non developed markets). Journal of Business Management and Economic Research, 2 (1), 15-30.

[40]. Sveiby, K.E. (1997). The New Organisationalwealth:Managing and measuring knowledge based assets. San Frances C.A.Barreh-Kohler.

[41]. Tan, H.P., Plowman, D. &Hancock , P.(2007). Intellectual Capital and Financial Returns of Companies. Journal of Intellectual Capital, 8(1), 76-95.

[42]. Tendon, K., Purolit, H. &Tandon, D. (2016). Measuring Intellectual Capital and Its Impact on Financial Performance: Empirical Evidence from CNX Nifty Companies. Global Business Review, 10 (11), 64-79.

[43]. Ting, W.K. and Lean H. H. (2009). Intellectual capital performance of financial institutions in Malaysia. Journal of Intellectual Capital, 10(4), 588- 599.

[44]. Wang, J. C. (2008). Investigating market value and intellectual capital for S&P 500. Journal of Intellectual Capital, 9(4), 546 - 563.

[45]. Wang, W.Y., & Chang, C. (2017). Intellectual capital and performance in casual models: Evidence from the international technology industry in Tawan. Journal of Intellectual capital 6(2). 222-236.

[46]. Xu, J., & Liu, F. (2020). The impact of intellectual capital on firm performance: a

modified and extended VAIC Model.   Journal of Competitiveness, 12(1), 161–176.

APPENDIX.
LIST OF BANKS

Access Bank Plc. (ACCESS)	Nigeria
Ecobank Transnational Incorporated (ECO)	Nigeria
Fidelity Bank Plc (FIDELITY)	Nigeria
Guaranty Trust Bank Plc. (GT)	Nigeria
Zenith Bank Nig. Plc (ZENITH)	Nigeria
United Bank For Africa Plc (UBA)	Nigeria
ABSA Bank Limited (ABSA)	South Africa
Barclays Africa Group Limited (BARCLAYS)	South Africa
Capitec Bank Holdings Limited (CAPITEC)	South Africa
Nedbank Group Limited (NED)	South Africa
Sasfin Holdings Limited (SASFIN)	South Africa
Standard Bank group (STANDARD)	South Africa
Diamond Trust Bank Group (Diamond)	Kenya
Kenya Commercial Bank Group (commercial)	Kenya
National Bank of Kenya (National)	Kenya
Standard Chartered of Kenya (Standard)	Kenya
Cooperative Bank of Kenya (Cooperative)	Kenya
National Industrial Credit Bank (industrial)	Kenya
Absa Bank (Mauritius) Limited (Absa)	Mauritius
BCP Bank (Mauritius) Ltd (BCP)	Mauritius
Investec Bank (Mauritius) Ltd (Investec)	Mauritius
SBI (Mauritius) Limited (SBI)	Mauritius
Standard Bank (Mauritius)Limited (Standard)	Mauritius
StandardChartered Bank (Mauritius) (Chartered)	Mauritius