SUSTAINABILITY REPORTING COMPLIANCE AND RETURN ON CAPITAL EMPLOYED (ROCE) OF COMPANIES LISTED ON THE NIGERIA STOCK EXCHANGE

RELATÓRIOS DE SUSTENTABILIDADE, CONFORMIDADE E RETORNO SOBRE O CAPITAL EMPREGADO (ROCE) DE EMPRESAS LISTADAS NA BOLSA DE VALORES DA NIGÉRIA

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Abstract

Sustainability reporting is currently a contemporary issue in accounting studies. This study examines the impact of sustainability reporting compliance on the Return on Capital Employed (ROCE) of listed firms in Nigeria. Secondary data was collected from annual reports of a sample of fifty seven companies listed on the Nigerian Stock Exchange. Simple disclosure index was used to score sustainability reporting Compliance using Economic (ECM),

Resumo

A divulgação de informações sobre sustentabilidade é um tema contemporâneo nos estudos contábeis. Este estudo examina o impacto da conformidade com a divulgação de informações sobre sustentabilidade no Retorno sobre o Capital Empregado (ROCE) de empresas listadas na Nigéria. Dados secundários foram coletados dos relatórios anuais de uma amostra de cinquenta e sete empresas listadas na Bolsa de Valores da

Environmental (EVM) social (SOC) and Governance (GOV) disclosures in the annual reports of the sampled firms based on Nigeria Stock Exchange (NSE) Sustainability Reporting Guideline. The firms' financial performance was evaluated based on Return on Capital Employed (ROCE). Using least square panel data analysis, the results show that listed companies in Nigeria have significantly complied with the sustainability disclosure guideline. The aggregate average sustainability Reporting Compliance (SRC) by all the firms examined was 75%. It was also found that there is a significant association between sustainability Reporting Compliance and Return on Capital Employed (ROCE). It is recommended that companies, both local and international should adopt sustainability in their day-to-day policies to be legitimate in their daily activities on the planet and also enjoy better financial performance.

Keyword: Compliance. Financial Performance. Return on Capital Employed (ROCE). Sustainability. Sustainability Reporting. Nigeria Stock Exchange.

Nigéria. O Índice de Divulgação Simples foi utilizado para avaliar a conformidade com a divulgação de informações sobre sustentabilidade, considerando as divulgações Econômicas (ECM), Ambientais (EVM), Sociais (SOC) e de Governança (GOV) nos relatórios anuais das empresas da amostra, com base nas Diretrizes de Divulgação de Informações sobre Sustentabilidade da Bolsa de Valores da Nigéria (NSE). O desempenho financeiro das empresas foi avaliado com base no Retorno sobre o Capital Empregado (ROCE). Utilizando a análise de dados em painel por mínimos quadrados, os resultados mostram que as empresas listadas na Nigéria têm cumprido significativamente as diretrizes de divulgação de informações sobre sustentabilidade. A média agregada de conformidade com a divulgação de informações sobre sustentabilidade (SRC) de todas as empresas examinadas foi de 75%. Também foi constatada uma associação significativa entre a conformidade com a divulgação de informações sobre sustentabilidade e o Retorno sobre o Capital Empregado (ROCE). Recomenda-se que as empresas, tanto locais quanto internacionais, adotem a sustentabilidade em suas políticas diárias para serem legítimas em suas atividades cotidianas no planeta e também para obterem um melhor desempenho financeiro.

Palavras-chave: *Conformidade. Desempenho Financeiro. Retorno sobre o Capital Empregado (ROCE). Sustentabilidade. Relatórios de Sustentabilidade. Bolsa de Valores da Nigéria.*

1 BACKGROUND OF THE STUDY

The 21st Century has its possible requirements for any business to thrive. The overall objective of any organization is to consistently grow and survive on a long term basis (Adeniran &Obembe, 2020), especially in the face of this environmental crisis besieging the whole world. The relationship between the business and the immediate environment should be a symbiotic one (Aondoakaa, 2015). Earnst and Young (2013) maintain that the environment must be in the budget of every economic organization. This is because; profit will become unsustainable in the long run if the environment from which the profit is being made is constantly being ignored without remedy (Unerman etal., 2007). As such economic activities must be based on socially, environmentally and of course sustainably accepted before they are carried out.

Following from the above, Eneh etal. (2019) postulated that "since United Nations charter on the environment came into existence, efforts to ensuring sustainability has received recognition globally as one that simultaneously addresses the concerns of this generation's and also ensures that future generations can also meet their own needs. Firms are now expected to show their concerns for contributing to efforts at ensuring sustainability by taking up corporate sustainability reporting or "the triple bottom line" that incorporates environmental, social, and economic parts". Eneh etal, (2019) believes that sustainability is simply the ability of the businesses operating now to meet their needs using the environment without hampering the future generation from meeting their own needs too in the future. This is simply the whole essence of sustainability.

If businesses are sustainable, it becomes easier for them to make reasonable and environmentally friendlypolicies. The question is how many businesses are tolling this lane to ensure that the environment is replenished and conserved for the future generation. Most businesses wants to gain it all today but lose it all in the future as implied in the thoughts of Welford (1997). In our world today, Businesses are increasingly being held accountable for their activities in the environment. According to Aondoakaa (2015), sustainability is no longer an issue of volition.

Every business must ensure they are complying with sustainability, not necessarily its reporting. This is because reporting has a way of deceiving the companies. They only tick off the boxes and report, but they may not necessarily be complying in terms of making their daily activities sustainable. Especially in a country where everything passes, whether good or bad. Unerman et al, (2007) postulates that one way to look at these issues is in terms of long-term need to ensure that economic activity is socially and environmentally sustainable. In the short-term it may be possible to have economic growth, while damaging society and the environment. In the long-term this is impossible. For example, businesses need a stable society in which to operate profitably (Adeniran &Olorunfemi, 2020). It is not also out of place for some businesses to generate profit from addressing the outcomes of social conflicts, such as businesses offering security service etc.

Several studies on the impact of sustainability reporting on financial performance all centered around entities outside Africa. Few studies focusing on Nigeria entities are either not using the appropriate matrix for measuring sustainability or they failed to correlate the actual relationship between Corporate sustainability compliance and

Financial performance. In Nigeria, early studies focused more on the issue of only environmental studies and not necessarily tying it out on corporate financial performance. Those that tried tying it out to Financial performance either limited the scope of their study to a sector.

For example, Asaolu (2011) addressed the Oil and Gas sector, Ayoola (2011) followed the same partern of work, Ayoola and Salawu (2011) also assessed the Nigerian Oil and Gas sector sustainability reporting, Oyewo and Badejo (2014) focused more on the financial sector. Especially on the development of sustainability reporting practice by banks in Nigeria employing a 30-item checklist to ascertain compliance. Nwobu (2015) using content analysis and Onyali and Onodi (2015) used primary data to examine sustainability reporting for Nigerian entities in the manufacturing sector. All these scholarly works are largely insufficient.

Again, prior studies such as Asaolu etal. (2011),Oyewo and Badejo (2014) and Nwobu (2015) have been limited in their research focus on sustainability reporting. They primarily restricted their works to evaluating the level of sustainability reporting for the entities examined, but did not extend further to show what factors control sustainability reporting level, what the extent of compliance is and whether there is actually any relationship between financial performance of the complying entities and sustainability reporting in accordance with the guidelines provided by Nigeria Stock Exchange. It is unclear what impact Sustainability Reporting has had on organisation strategies, practices and outcomes (Hubbard, 2008), especially corporate financial performance.

Also, only Okwuosa and Adesina (2021) appears to be the only current literatures that examined the quality of compliance to the new guidelines approved in Nigeria by the Nigeria Stock Exchange. However, they did not examine the impact of compliance on profitability. All current works in the study of sustainability reporting and financial performance are all based on the Global Reporting Initiative (GRI). This gap in literature is what this study intends to bridge. This work measures sustainability reporting using the approved Nigeria Stock Exchange Sustainability Guidelines. The main objective of this research is to ascertain the impact of Sustainability Reporting on the Return on Capital Employed (ROCE) of selected companies listed in the Nigeria Stock Exchange (NSE).

The specific objectives of this research are as follows:

[1].   To ascertain the extent of compliance with the Nigeria Stock exchange Sustainability Disclosure Guidelines using simple disclosure Index;

[2].   To determine the impact of sustainability reporting compliance on the Profitability of companies listed in the Nigerian Stock Exchange.

1.1 Statement of research hypotheses

The following are the hypotheses of the study:

H_{01}: There is no significant compliance with the NSE sustainability disclosure guidelines

H_{02}: There is no significant association between compliance with the NSE disclosure guidelines (SRC) and Return on Capital Employed (ROCE) of listed companies in Nigeria.

1.2 Scope of the study

The main aim of this study is to examine the impact of sustainability reporting on the Return on Capital Employed (ROCE) of selected companies on the Nigeria Stock Exchange. The research uses information from the financial statements of listed companies in Nigeria. The period covered is from 2010 to 2020. The information analysed in this research is purely based in Nigeria.

2 METHODOLOGY

2.1 Research design

The Researcher adopted expost –facto research design in this study. According to Ekwueme (2011) expost –facto research design is used to research on an event which has happened and was recorded for information purpose. Examining the relationship between sustainability reporting and the financial performance of companies listed in the Nigeria stock exchange is based on past event as such expost-facto research design is appropriate. Other research designs can be used but due to limited time frame, the researcher could not adopt other research designs. However, the Researcher has recommended the adoption of other research designs for future research to enrich Scholarship.

2.2 Population of the study

The data used covers a period of 10 years drawn from the annual reports of listed companies There were 161 members in the Nigeria stock exchange as at 31st December 2020. The choice of the firms was based on the ones that have included sustainable reports in their annual reports between 2010 to 2020. This comprises 161 companies as per the NSE fact book 2020. Since sustainability reporting is not yet compulsory for all members of the NSE, the Researcher concentrated on Multinational companies and few local Companies that have embraced Sustainability Reporting and are currently integrating sustainability information in their annual reports.

2.3 Sampling Techniques and sample size

From the 80 listed companies on Nigeria Stock Exchange after backing out all Financial Institutions, a sample for this study is selected using the Slovin's formula below:

$$n = \frac{N}{1 + N(e)^2} \qquad (1)$$

where;

n = number of samples drawn N = Total Population size e= Error tolerance level

Given a population of 80 after backing out all listed financial institutions, the researcher assumes a margin of error of 5% and a confidence level of 95%. Therefore, a sample of 57 Companies were drawn using the formular stated. From the above calculation the Researcher sampled 57 companies. These 57 companies were randomly selected based on the availability of sustainable report in their annual reports. The researcher backed out all Financial Institution since they have their own separate sustainability Guideline (Nigeria Sustainable Banking Principles) being enforced by the CBN.

2.4 Sources of data

The researcher used secondary data. The sources of data include annual reports and accounts of companies in the Nigeria Stock Exchange Fact Book. Other sources

include textbooks, academic journals, internet, conferences report, My experience as a Compliance Manager in a Multinational Company etc.

2.5 Data collection instrument

Data was collected from annual reports published in the NSE fact book using Excel. The annual reports were reviewed, and all relevant data were extracted and populated on Excel for necessary calculations. All data used are all purely secondary. According to Ndukwe, (2009), annual reports are generally considered by management and owners of the company to be the best source of information on the activities of any organization at any point in time. Top Managers of companies consider annual reports as a key medium of communicating the company's performance (Rudigar and Kuhnen, 2013).

2.6 Instrument validation and reliability

The data collected were validated using a second opinion. I.e allowing another Researcher recalculate the financial values extracted from the NSE factbook to ensure accuracy and reliability. Also, another set of people were engaged to also analyse the sustainability disclosures again, aside what the Researcher has done. The Crombatch Alpha Test was also used to ascertain the reliability of the data on a scientific basis (Adeniran, 2025). The problem of independence of the error terms were tested using Durbin-Watson statistics which shows that, there is positive autocorrelation between the residuals of the data used in this study. This further shows that, the statistic obtained is accurate and reliable, which is also in line with Asaolu (2011).

2.7 Method of data analysis

This study adopts a panel data analysis, the descriptive statistics and correlation matrix are conducted. Panel ordinary Least Square (OLS) regression analysis was utilized. Both Simple Disclosure Index (SDI) and Least Square Method was adopted to analyse the data obtained. The researcher adopts a simple disclosure index (SDI) to test the first hypothesis. This is done by scoring each company in the sample selected between

0% to 100% for the numbers of Sustainability factors (Environmental, Social and Economic Factors based on the Nigeria Stock exchange sustainability guideline) disclosed in their Annual reports. A simple formula (obtained scores divided by obtainable score multiplied by 100%) gives the score for each of the sustainability Reporting Compliance (SRC) Indicators. The researcher adopts the Least square Method to test the second Hypothesis. Eview 10 was utilised in analysing the data.

It is worthy of note to mention that the NSE sustainability guideline has four components i.e Economic, Social Governance and Environmental (ESGN) as against the three bottomline factors of economic, social and environmental components (ESN). The researcher has treated all the indicators including Governance, as part of what is expected of any sustainable company in Nigeria.

Table 1

Summary of variable selection

SUMMARY OF VARIABLE SELECTION		
VARIABLE	**DEFINITION**	**MEASUREMENT**
Dependent		
ROCE	Return On Capital Employed	Net Profit/ Capital Employed
Independent		
ECM	Economic	Code 1 if economic sustainability report is included in annual report
EVM	Environmental	Code 1 if Environmental sustainability report is included in annual report
SOC	Social	Code 1 if Social sustainability report is included in annual report
SRC	Sustainability Reporting Compliance	Average of (ECM+EVM+SOC)

Source: Authors construction on excel.

2.8 Model description and Justification

To ensure adequate observation for statistical testing, this study adopts a panel data analysis, the descriptive statistics and correlation matrix are conducted (Adeniran et al., 2024). Panel ordinary Least Square (OLS) regression analysis which examines the relationship between a dependent variable and independent variables was conducted for the respective variables and hypothesis.

$$Y = b_0 + b_1 X_1 + E \dots\dots\dots\dots (Model\ 1)$$

Where:

Y is the dependent variable which describes Financial performance indicators i.eReturn on Capital Employed (ROCE)

X is the independent variables which represent the components of Sustainability Reporting Compliance;

E is the error term capturing other explanatory variables not explicitly included in the model. b_o

is the intercept of the regression and b_1 is the coefficient of the regression.

The independent variables were measured by Simple Disclosure Index based on performance selected from Nigeria Stock exchange guidelines as applied in Okwuosa and Adesina (2021). The economic, environmental, governance and social disclosure is calculated based on the number of indicators that are disclosed using a simple formula (Obtained score divided by obtainable score multiplied by 100%). The following abbreviations are therefore selected to denote their respective variables in the model.

(i) **H0:** There is no significant association between compliance with the NSE disclosure guidelines (SRC) and Return on Capital Employed (ROCE) of listed companies in Nigeria.

Operationalizing the above

$$ROCE_{it} = \beta_0 + \beta_1 SRC_{it} + \varepsilon \text{ --- (Model 2)}$$

$$ROCE_{it} = \beta_0 + \beta_1 ECM_{it} + \beta_2 EVM_{it} + \beta_3 SOC_{it} + \beta_4 GOV_{it} + \varepsilon \text{ ------ (Model 3)}$$

2.9 Validity test

The accuracy of the regression analysis above was tested using Significant F change to cater for multicolianearity. The problems of independence of the error terms were tested using DurbinWatson statistics.

2.10 Limitation of the methodology

The main limitation to this research is the fact that secondary information obtained was not discussed by any focus groups and was not linked in any way to structured observation. In addition to this, there was limits to generalization in the sense that it was

difficult to generalize the output of one company to the other companies. Lastly, there was limit to the geographical coverage of the samples selected. The study focused on Companies listed in Nigeria Stock Exchange. There are several companies who are also doing well in the area of sustainability but are clearly excluded from this research automatically because of the focuss on NSE members.

2.11 Ethical considerations

Lots of ethical consideration was given to this research. Given that the subject of study itself has people in focus, No one's privacy was intruded. The researcher ensured that in reviewing the performance, there was no conflict of interest. i.e preferring one company to another. The researcher understands the provision of the Data protection act and ensured that information obtained for the purpose of this research is only used for the purpose of this research only. Lastly, the Researcher placed a level of trust on the Annual reports of the companies analysed.

3 DATA ANALYSIS

In this study, Sustainability Reporting and financial performance of selected companies listed in the Nigeria Stock Exchange (NSE) for the period covering 2010 to 2020 is investigated. This study uses 57 quoted companies audited annual financial report between 2010 and 2020. To ensure adequate observation for statistical testing, this study adopts a panel data analysis, the descriptive statistics and correlation matrix are conducted. Panel ordinary Least Square (OLS) regression analysis was conducted. Added to the above, the variable for this study include return on capital employed (ROCE), Sustainability ReportingCompliance (SRC) Environmental (EVM), Governance (GOV), Social (SOC) and Economic (ECM) disclosures in the annual report.

3.1 Descriptive statistics of sustainability and financial performance

The table below shows the descriptive statistics of sustainability indices SRC and ROCE.Below is the result obtained:

Table 2

Summary of Descriptive Statistics

ROCESRC	ECM	EVM	GOV	SOC		
Mean	0.049529	0.748737	0.743534	0.746452	0.758135	0.746608
Median	0.075000	0.761875	0.780000	0.780000	0.800000	0.780000
Maximum	1.220600	1.142500	2.170000	2.170000	0.990000	0.990000
Minimum	-1.447400	0.500000	0.500000	0.500000	0.500000	0.000000
Std. Dev.	0.312305	0.098762	0.139554	0.139064	0.122535	0.131804
Skewness	-1.811972	-0.506448	1.162606	1.173695	-0.826268	-1.177162
Kurtosis	12.49074	3.767735	19.49759	19.61738	2.950619	5.450980
JarqueBera	2679.086	41.93245	7205.436	7311.101	70.95226	299.8225
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Observation	623	623	623	623	623	623

Source: Eviews output

The descriptive statistics indicated that the mean values of variables (ROCE, SRC, ECM, EVM, GOV and SOC) were 0.049529, 0.748737, 0.743534, 0.746452, 0.758135 and 0.746608 respectively, for ROCE, SRC, ECM, EVM, GOV and SOC. The maximum values of the variables between the study periods were 1.142500, 2.170000, 2.170000, 0.990000 and 0.99000 for the ROCE, SRC, ECM, EVM, GOV and SOC, respectively. The standard deviations for each variable indicated that data were widely spread around their respective means. Generally skewness measures the symmetry of the distribution and explains whether the mean is at the center of the distribution with a skewness value 0 if considered normal.

Therefore negative value indicates a skew to the left (left tail is longer that the right tail) and a positive values indicates a skew to the right (right tail is longer than the left one. The descriptive statistics from Table 1 revealed that the variables were all asymmetrical. In this study, I found all variable (NPM, ECM, EVM) to be positively skewed, meaning that their right tails are longer than their left ones while variables (ROCE, SRC, GOV and SOC) were negatively skewed.

In this study, the study also conducted statistical analysis to ascertain the characteristics of the location and variability of the various sources of the secondary data and to determine the extent to which the data was peaked. The study used the Kurtosis as a statistical measure to ascertain the extent to which the data was peaked or flat in relation

to the normality of the distribution. A normal distribution has a value of 3. A kurtosis >3 indicates a sharp peak with heavy tails closer to the mean (leptokurtic). A kurtosis < 3 indicates the opposite a flat top (platykurtic). Looking at the results shown in Table 1, the distributions of variables were leptokurtic and the p-value of the Jarque-Bera test statistic for all variables were lesser that the 0.05 critical values. The statistical implication of the JarqueBera test statistic is that the null hypothesis was rejected and the alternative hypothesis was accepted since the residuals were normally distributed.

3.2 Correlation coefficient

In Table 2 we focus on the correlation between return on capital employed (ROCE), Sustainability Reporting Compliance (SRC) Environmental (EVM), Governance (GOV), Social (SOC) and Economic (ECM) disclosures in the annual report. In statistics, the correlation coefficient r measures the strength and direction of a linear relationship between two variables on a scatterplot. The value of r is always between +1 and –1.

Table 3

Correlation Matrix

	ROCE	SRC	EVM	ECM	SOC	GOV
ROCE	1.000000					
SRC	0.038722	1.000000				
EVM	0.004773	0.770109	1.000000			
ECN	0.050239	0.729473	0.460005	1.000000		
SOC	0.023406	0.801280	0.504583	0.405992	1.000000	
GOV	0.036437	0.659822	0.285478	0.256474	0.475161	1.000000

Source: Eviews output

Correlation analysis results in table 3 show that there is a positive correlation between Sustainability Reporting Compliance (SRC) and return on capital employed (ROCE) (r= 0.038722). Findings in Table 2 also reveal that there is a positive relationship between Environmental (EVM) and return on capital employed (ROCE) (r = 0.038722). Results in table 2, indicate that there was a positive correlation between Social (SOC) and return on capital employed (ROCE) (r= 0.023406). Further, the correlation between Governance (GOV) and return on capital employed (ROCE) (r = 0.036437). The

implication of this correlation result is that Sustainability Reporting Compliance (SRC) Environmental (EVM), Governance (GOV), Social (SOC) and Economic (ECM) are positively associated with return on capital employed (ROCE).

Hypotheses test

H_{01}: there is no significant compliance with the NSE sustainability disclosure

Decision Rule

The decision rule is to reject the null hypothesis if 60% of the sample tested disclosed Sustainability Report in line with Nigeria Stock Exchange (NSE) Sustainability Guidelines. The Simple disclosure index arrived after reviewing the Annual reports of companies is as follows:

Table 4

Analysis showing summary of overall score for sustainability reporting for 57 companies sampled

DESCRIPTION	ECM	EVM	SOC	GOV	SRC
TOTAL	466.45	468.27	468.37	475.55	469.70
OVERALL NUMBER OF DATA	627.00	627.00	627.00	627.00	627.00
OVERALL SCORE	0.74	0.75	0.75	0.76	0.75
IN PERCENTAGE FORM	74%	75%	75%	76%	75%

Source: Author's computation

From the above, overall score for Economic (ECM) compliance indicator is 74%, Environmental (EVM) indicator is 75%, the Social (SOC) indicator is 75%, the Governance (GOV) indicator is 76%. The Sustainability Reporting compliance (SRC) indicator shows 75%. From the analysis of the company, no company scored zero in any of the indicators. This answers our first hypothesis. As it confirms that all the companies in the sample selected all complied with Sustainability reporting standard in line with Nigeria Stock Exchange (NSE) guidelines from 2010 to 2020.

3.3 Decision

From the above, Sustainability Reporting Compliance (SRC) for companies sampled shows 75%. This indicates clearly that there is a significant compliance with the

NSE sustainability disclosure guidelines by listed companies in Nigeria. The null hypothesis is hereby rejected while the alternate hypothesis is hereby accepted. This result is in compliance with the result obtained by Aondoakaa (2015), Ndukwe (2009) and Nnamani et al. (2017) who all agreed that listed companies in Nigeria have significantly complied with sustainability reporting. However, the result contradicts Okwuosa and Adesina (2021).

Following from the above, it is very clear that companies listed on the Nigeria Stock exchange are now in compliance with sustainability reporting. Given that all 57 companies tested all disclosed their sustainability activities means it is gradually becoming a norm.

H₀: There is no significant association between compliance with the NSE disclosure guidelines (SRC) and Return on Capital Employed (ROCE) of listed companies in Nigeria.

3.4 Decisio rule

The decision rule is to reject the null hypothesis if calculated t-value is greater than the tabulated t - value. In order to ascertain the impact that sustainability Reporting Compliance (SRC) has on the Return on Capital Employed (ROCE) of companies, the Researcher regressed ROCE against the three components of sustainability Reporting Compliance (SRC). The model formulated earlier is tested using the panel regression using fixed and random effect model. In order to determine which of the two models should be preferred (i.e. whether the Fixed Effects or the Random Effects Model), the following hypothesis was investigated:

H0: Random Effects (RE) Model

Note that the chosen alpha (**α**) at 5% significant level is 0.05

Model 3

$$ROCE_{it} = \beta_0 + \beta_1 SRC_{it} + \varepsilon$$

Table 5

Correlated Random Effects - Hausman Test

Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.045026	1	0.0810
Cross-section random		**effects test comparisons:**	
Variable	Fixed	Var(Diff.)	Prob.
	Random		
SRC	0.228063	0.126762	0.003370	0.0810

Source: Eviews output

The Table 4 shows the Hausman test result with the p-value of 0.0810 which is greater than the acceptable 0.05 level of significance. Thus, the null hypothesis that random effect is suitable for this model is accepted. Indicating the model should be estimated using random effect, thus random effect was used and Table 5 shows the result of the regression estimate.

Table 6

Cross-section random effects test equation:

Cross-section random effects test equation:			
Dependent Variable: ROCE			
Method: Panel Least Squares			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.120969	0.104758	-1.154749	0.2487
SRC	0.311379	0.138860	2.242396	0.0311
	Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.097425	Mean dependent var		0.049877
Adjusted R-squared	0.007008	S.D. dependent var		0.311353
F-statistic	6.077513	Durbin-Watson stat		1.892698
Prob(F-statistic)	0.031089			

Source: Eviews output

3.5 Interpretation and discussion of result

From the panel least square results shown in Table 5 above, coefficient of determination (R^2) for the model is 0.097425 indicating the strength of the explanatory variables to explain changes/variations that take place in the dependent variable. It implies

that, the explanatory variables explain or account for 9.7 percent of variation in the dependent variable. That is, 9.7% of the variations in return on capital employed (ROCE) are explained by Sustainability Reporting Compliance (SRC). In other words, about 90.3 percent of variation in the dependent variable is caused by other factors not included in the model. In line with the output of the analysis, the model will appear with its estimates as follows:

$$ROCE_{it} = -0.120969 + 0.311379 SRC_{it} + \varepsilon$$

The coefficient of Sustainability Reporting Compliance (SRC) assumes a positive and statistically significant value. This implies that one percentage point rise in Sustainability Reporting Compliance (SRC) increases return on capital employed (ROCE) by 0.311379percent.

The robustness of this result is further buttressed by an F-statistic of 6.077513 while the DurbinWatson statistic of 1.892698 clearly indicates that there is no effect of serial correlation among the variables used in the study. With the Probability of F-statistic of 0.031089, it is significant enough to conclude that the model has performed well.

Model 4

$$ROCE_{it} = \beta_0 + \beta_1 ECM_{it} + \beta_2 EVM_{it} + \beta_3 SOC_{it} + \beta_4 GOV_{it} + \varepsilon$$

Table 7

Correlated Random Effects - Hausman Test

Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		4.675716	4	0.3222
Cross-section random effects test comp				
		Random		
Variable	Fixed		Var(Diff.)	Prob.
ECM	0.169716	0.127410	0.002279	0.3755
EVM	-0.095100	-0.069821	0.002292	0.5975
SOC	0.072545	0.008502	0.002733	0.2205
GOV	0.092085	0.076935	0.003150	0.7872

Source: Eviews output

The Table 6 shows the Hausman test result with the p-value of 0.3222 which is greater than the acceptable 0.05 level of significance. Thus, the null hypothesis that

random effect is suitable for this model is accepted. Indicating the model should be estimated using random effect, thus random effect was used and Table 7 shows the result of the regression estimate

Table 8

Cross-section random effects test equation:

Cross-section random effects test equation:				
Dependent Variable: ROCE **Method: Panel Least Squares** **Variable**	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.129568	0.107617	-1.203969	0.2291
ECM	0.169716	0.114445	1.482953	0.1386
EVM	-0.095100	0.120213	-0.791092	0.4292
SOC	0.072545	0.132857	0.546039	0.5853
GOV	0.092085 Effects Specif	0.129483 ication	0.711174	0.4773
R-squared	0.330651	Mean dependent var		0.049680
Adjusted R-squared	0.285144	S.D. dependent var		0.311563
F-statistic	7.053865	Durbin-Watson stat		1.892727
Prob(F-statistic)	0.032014			

Source: Eviews output Interpretation and discussion of result

From the panel least square results shown in Table 11 above, coefficient of determination (R^2) for the model is 0.285144 indicating the strength of the explanatory variables to explain changes/variations that take place in the dependent variable. It implies that, the explanatory variables explain or account for 28.5 percent of variation in the dependent variable. That is, 28.5% of the variations in return on capital employed (ROCE) are explained by Environmental (EVM), Governance (GOV), Social (SOC) and Economic (ECM). In other words, about 71.5 percent of variation in the dependent variable is caused by other factors not included in the model. In line with the output of the analysis, the model will appear with its estimates as follows:

$ROCE_{it}$ = -0.129568+ 0.169716ECM_{it} -0.095100EVM_{it} + 0.072545SOC_{it} + 0.092085GOV_{it} + ε

The coefficient of Environmental (EVM), Governance (GOV), Social (SOC) and Economic (ECM) assumes a positive value. This implies that one percentage point rise in Governance (GOV), Social (SOC) and Economic (ECM) increases return on capital employed (ROCE) by 0.169716percent, 0.072545 percent and   0.092085 percent

respectively while that one percentage point rise in Environmental (EVM) decreases return on capital employed (ROCE) by 0.095100percent.

The robustness of this result is further buttressed by an F-statistic of 7.053865while the DurbinWatson statistic of 1.892727 clearly indicates that there is no effect of serial correlation among the variables used in the study. With the Probability of F-statistic of 0.032014, it is significant enough to conclude that the model has performed well.

3.6 Decision

The regression results on Table 7 show a positive coefficient (0.311379) between Sustainability Reporting Compliance (SRC), t-statistic (2.242396), with a probability of 0.031089 which is statistically significant at 5 percent level of significance. This leads us to reject the null hypothesis that there is no significant association between compliance with the NSE disclosure guidelines (SRC) and Return on Capital Employed (ROCE) of listed companies in Nigeria and conclude that there is significant association between compliance with the NSE disclosure guidelines (SRC) and Return on Capital Employed (ROCE) of listed companies in Nigeria. This result is also in line with the results arrived in Munansighe and Kumara (2013), Nnamani etal. (2017) and Aondoakaa (2015) However, the result contradicts the work of Puneeta and Rupali (2020).

4 CONCLUSION AND RECOMMENDATIONS

This study aimed at examining the impact of sustainability reporting compliance on Return on Capital Employed (ROCE). The study shows that sustainability reporting provides a framework to create value for stakeholders which translates to satisfying the interest of diverse group of stakeholders. This is what is propagated by stakeholder theory that managers should manage a firm for the benefit of all stakeholders.

More specific conclusion from the study are:

i. On the whole Sustainability Reporting Compliance has impacted positively and significantly on Net profit margin (NPM) and Return on Capital Employed (ROCE)

ii.Companies in Nigeria have significantly complied with the requirement of the Nigeria Stock exchange (NSE) Guideline

iii.In overall, there is a premium that accrues to listed companies when they comply with sustainability reporting guidelines issued by Nigeria Stock Exchange as they will be seen as sustainable and ethical in their dealings with stakeholders.

4.1 Recommendation

The following are my recommendations:

1. There is need for uniformity in reporting Sustainability. Because Sustainability Reporting is rapidly evolving, different standards and frameworks have emerged. There is need to harmonize Sustainability Reporting standards and guidelines.

2. There should be legislative back up for sustainability reporting to give it more power and encourage companies to comply

3. The Researcher also recommends sustainability reporting standards be drawn by the Financial Reporting Council of Nigeria and ensure compliance of companies reporting to their sustainability activities to Financial Reporting Council of Nigeria (FRCN).

4. All companies, both local and international should adopt sustainability in their day to day policies to be legitimate in their daily activities on the planet.

5. People should be viewed as very important when companies are trying to make profit. People and planet should be given consideration before economic decisions are stamped off.

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Authors' Contribution

Both authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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