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Social and Environmental Accounting and Performance of Banking Companies Quoted in Nigeria

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Abstract: Since the 2007-2008 global financial crisis, which affected many large corporations, the performance of companies has come under scrutiny, and the corporate world has been forced to restructure its relationship with its stakeholders. For many years, stakeholders have been clamoring for greater accountability, and transparency from the management of companies on social and environmental matters. This paper studied the relationship between social and environmental accounting and performance of banking companies quoted in Nigeria, using *ex-post-facto* research design, while the total enumeration sampling technique was used in the selection of the 13 banking companies for a period of 10 years from 2011 - 2020. Descriptive and inferential statistics were used to analyze the data. The study's findings demonstrated that social and environmental accounting had a considerable impact on the return on capital employed (ROCE) of Nigerian banking organizations ($Adj\ R^2 = 0.0367$, $F\text{-}Stat = 14.34$, $p = 0.0008$) While the effect of social and environmental accounting disclosure on return on capital employed (ROCE) of Nigerian banking enterprises is moderated by firm size ($\Delta Adj\ R^2 = 0.1391$, $F\text{-}Stat = 7.95$, $p = 0.0001$). According to the findings, social and environmental accounting has a substantial impact on the performance of Nigerian financial organizations. The study recommended that policies be made for the mandatory disclosure of social and environmental accounting information in the financial statement of firms.

Keywords: Social Accounting, Environmental Accounting, Performance, Return on Capital Employed, Banking Companies

1. Introduction

The financial stability of any corporations is determined by its ability to produce a profit, enhance the value of its invested capital, and repay its short- and long-term responsibilities. The health status of every firm is largely dependent on the ability of the management to make the best use of the value of the corporation, create wealth and bring added value to the investors' assets [28, 5, 36].

The performance of every firm is very vital to the investors, stakeholders and the economy. Investors are interested in their investment returns while other stakeholders are interested in the capability of the firm to provide better services, environmental friendly products, better pay for workers, improved working conditions and the ability to generate funds as tax payers for the development of the economy of the country [26, 8, 25, 7].

Managers are always faced with the challenges of pursing goals and objectives that will improve the finances of their organizations while operating in a world where they are expected to seek for business ideas and opportunities that will make better the overall performance of the organization in terms of shareholders' value while restricted by real life constraints and environmental constraints [27].

Since the 2007-2008 worldwide economic downturn which had an effect on a number of significant corporations such as Arthur Anderson, Enron and JP Morgan Chase the performance of companies has come under strict scrutiny and the corporate world has been forced to restructure its relationship with its stakeholders. Stakeholders have been clamoring for greater accountability and transparency from management. Thus, management is saddled with the responsibility of providing stakeholders with good financial statements that are reliable. Financial statements serve as a steady source of information for investors, which is used in making capital investment decisions and as a means of identifying the effectiveness and efficiency of management in being responsible for the resources entrusted to them [24, 34, 16]. The financial information helps managers in controlling and reducing hazard and vulnerability and can also help in making satisfactory choices about the company's future. This information is vital to various stakeholders as it helps them make informed economic decisions [2].

There are numerous aspects that influence the corporate financial performance of corporations. These factors can be grouped into micro and macro factors. And they play important roles in the valuation of corporate financial performance. Micro factors include internal factors which affects the country and firms' financial conditions and performance, while the macro factors include external factors that also affect the financial conditions of firms.

The survival, growth and development of corporations in the world is largely dependent on the operational efficiency of management as well as the financial performance [1]. Countries and organizations are increasingly focused on and concerned about the need for social and environmental accounting. This has become one of the most important issues on the agenda of business corporations and nations because the environment and society is really important for the development and advancement of a firm and nation.

Business organizations and nations are saddled with the responsibility of ensuring social and environmental matters are taken into thought when taking decisions. Financial performance is vital for organizational survival and companies do not want to sacrifice financial performance in order to act socially and environmentally responsible [22]. As a result of the entrenched interests of stakeholders, organizations in technologically sophisticated nations have quickly adopted the idea of improving their social and environmental performance. As a result of the depletion in natural resources, the Nigerian government adopted numerous environmental laws, rules, and government enactments to safeguard the environment.

2. Literature Review

2.1. Definition of Concepts

2.1.1. Performance

Performance is a broad phrase that refers to a portion or all of a corporation's actions across time, generally in terms of previous or predicted cost efficiency, management obligation, or accountability. As a result, the performance includes not only the presentation but also the quality of the outputs obtained.

The term "performance" refers to a collection of financial and non-financial indicators that provide all stakeholders with information on the ability of the management of the company to achieve the objectives set out of that financial year [10].

Financial performance is a metric that explains a company's management team's stewardship to stakeholders, and it incorporates the process of calculating a company's profitability, market value, and growth prospects [32].

Financial performance is a precise measure of a company's success in using its assets from its primary source of revenue to generate profits, as well as the outcome of its policies and processes in the form of financial successes [7].

Return on Capital Employed

Return on capital employed (ROCE) as an accounting based measure reflects the ability of any corporation to earn profit on all the capital it has employed or will employ. Return on capital employed (ROCE) reveals a firms' profitability towards the end of the corporation's financial year. This measure of financial performance is seen to be the best, as it shows the earnings power of a firm taking into account the interest of all stakeholders [13].

Return on capital employed points out the proficiency and profitability of a corporation's capital expenditure. It is one of the most important operational ratios that can be used to evaluate a corporation's viability. ROCE indicates the industry in which a company operates, the management's experience, and the surrounding business climate [29, 37].

Return on Capital Employed (ROCE) is a financial quotient that indicates how profitable a business is and how efficiently capital is applied [38].

2.1.2. Social and Environmental Accounting

Social and Environmental Accounting (SEA), often known as Corporate Social Responsibility, is the process of disclosing the social and environmental consequences of an organization's economic actions to certain interest groups and the general public [15].

Social and environmental accounting is a sustainable development approach that includes economic, social and environmental development [41].

Social and environmental accounting, often known as corporate social responsibility (CSR) reporting, is described as the process of conveying the economic impact of an organization's social and environmental initiatives to certain groups within society as well as the general public [12].

2.1.3. Firm Size

Firm size is defined as the quantum of resources available for an organization to run its operations. Firm size also called company size can be defined as an important firm characteristic that influences the financial and non-financial performance of firms. Firm size is the measure of how big or small a company is [11].

One of the most important aspects in achieving efficiency in a company's operations is the size of the company. Firm size is also one of the factors that affects the performance of companies and also determines the extent in which companies will disclose on the impact of their social and environmental activities to their stakeholders in their twelve-monthly reports.

In their investigation, the study [23] employed size as a control variable. The findings revealed that size had a significant impact on the initial investment time and intensity in environmental concerns, but that size had no bearing on the degree of proactivity in the development of environmental management.

2.2. Empirical Review

Corporate social responsibility accounting and insurance company financial performance in Nigeria (2007-2016) was looked into. The study's findings revealed that corporate social responsibility accounting and return on capital employed and net profit margin have a substantial link. The research also revealed that corporate social responsibility accounting and earnings per share have a substantial negative association [10].

A study on selected Nigerian food and beverage companies' environmental accounting statements and financial performance (2006-2015) was carried out. The findings revealed that environmental accounting disclosures have a substantial association with chosen companies' return on equity, whereas there is a negative relationship between environmental accounting disclosures and return on capital used and net profit margin [14].

The influence of environmental and social disclosure on the financial performance of Nigeria's publicly traded oil and gas businesses was investigated. The result revealed that a decrease in employee health and safety will result in a reduction in company's financial performance. The investigation's findings also indicated that an insignificant relationship exist between community development, employee health and safety and return on capital employed [33].

The link between environmental accounting and non-financial performance was looked into. Environmental accounting and firm size have a considerable beneficial link, according to the experts. Environmental accounting, earnings per share, and return on capital employed have no meaningful link, according to the findings [4].

The financial impact of environmental expenditures on Nigerian oil and gas companies was investigated. According to the research, environmental expenditures have no significant impact on gross profit margin (GM), but they do have a substantial impact on return on capital invested [31]. This contradicts the findings of [19], who discovered that environmental accounting procedures and accounting had large beneficial benefits on both turnover and return on capital employed, but the effect on net profit is modest, despite being favorable.

A study on the association between environmental and social costs and manufacturing company performance in Nigeria. Environmental and social costs have a strong negative link with Return on Capital Employed (ROCE) and Earnings per Share (EPS), but they have a significant positive relationship with Net Profit Margin (NPM) and Dividend per Share (DPS), according to the study's findings [18].

The impact of sustainable practices on financial organizations was investigated in the study [35]. According to the findings, there is a link between business sustainability and financial performance as assessed by earnings yield, return on asset, return on equity, and return on capital employed. Tobin's Q, on the other hand, yielded an inconclusive result.

The impact of corporate social responsibility on Indian companies' financial performance was looked into. The researchers carried out a comparative analysis between two sectors (manufacturing and service) in India. The findings demonstrate that ROE, ROA, and ROCE have a negative relationship with Manufacturing Sector Companies' CSR Score. While ROE, along with ROA and ROCE, has a strong positive association with CSR Score of Service Sector Companies, ROE has a positive correlation with CSR Score of Service Sector Companies. As a result, this finding implies that there is no link between CSR score and financial performance in the manufacturing sector [39].

3. Theoretical Review

3.1. Theories

3.1.1. Agency Theory

Agency Theory is based on economic theory, which was proposed by [6] and built upon by [20]. The Agency theory is defined as "*the relationship between the principals, such as shareholders and agents such as the company executives and managers*". This theory perceives the world is made up of two pairs of individuals' i.e. the principal (owner of the business) and the agent (managers). According to this view, the shareholders (owners or principals of the organization) hire the agents to do the work. The principals choose agents (directors or managers) to administer the corporation and ensure that the shareholders' goals are realized [9].

The agency theory is useful in this research as it emphases on the fact that proper segregation of power can affect the corporate financial performance of corporations and the disclosure of social and environmental information. This theory was also germane to this research as it recognizes conflicts that can arise from the segregation of power. A company that decides to improve its societal and environmental performance will incur more costs, which will have an impact on the shareholders' wealth maximization. The disclosure of social and environmental activities helps in providing stockholders and sponsors with more precise assessment of the corporation and also assist the corporation entice new financiers.

3.1.2. Stakeholders Theory

Freeman (1984) proposed the Stakeholder Philosophy, which is a theory of organizational management and corporate ethics that takes into account numerous communities impacted by corporate entities, such as employees, suppliers, local communities, creditors, and others. This idea included certain elements that the Agency Theory had previously overlooked. The stakeholder theory states that while making corporate decisions, many stakeholders such as government officials, the environment, customers, shareholders, employees, and others should be considered.

Stakeholder theory describes how the company's main objective is to create shared value for all stakeholders as part of ecosystems and social groups. Thus, it a task of management to work hard in fluctuating the resources entrusted to them in order to generate profits that become basis of serving and paying all stakeholders interests for a long term. The stakeholder theory is grounded on the postulation that shareholders are not the only group with an investment in a corporation.

The stakeholder theory calls for some form of Corporate Social Responsibility (CSR), which is a responsibility to work in an ethical manner, even if it involves a reduction in a company's long-term turnover [21].

3.1.3. Legitimacy Theory

Dowling and Pfeffer proposed the legitimacy theory in 1975, based on the concept of organizational legitimacy. According to legitimacy theory, companies must continuously ensure that they operate within the boundaries and norms of their respective countries. Legitimacy theory posits that a corporation needs to have legitimacy in the sense of a social license to function to access the needed resources to effectively carry out business.

Legitimacy theory is critical for understanding how a firm behaves when implementing and developing social responsibility policies, as well as communicating the outcomes to stakeholders. It views the company's social and environmental performance, as well as the disclosure of this data, as a means of fulfilling the company's social compact and facilitating the achievement of its objectives. This theory is based on the idea that a firm has an impact on the society in which it operates, and that the corporation has an impact on the society as well [42].

3.1.4. Theoretical Framework

This research is based on the stakeholder’s theory as this theory is concerned with how well managers accommodate the interest of all stakeholders who are influenced by the actions of corporations directly or indirectly. Since companies cannot exist or operate without the immediate environment or society, therefore the interests of all stakeholders must be considered when making strategic decisions which will affect the performance of the organization.

3.2. Methodology

Because this study depended on secondary data, it used an *Ex-Post Facto* research strategy. The study's population consisted of 13 banking organizations that were listed on the Nigerian Exchange (NGX) as of January 17, 2022. The total enumeration sample technique was employed since the research was conducted on the entire population of the study based on the availability of data from the companies at the time carrying out of the research. The data was obtained during a 10-year period, from 2011 to 2020, from the annual reports of the selected companies. Data was analyzed through the use of descriptive and inferential statistics. Social and environmental accounting was measured using the global reporting initiative (GRI) framework 2021. The return on capital employed (ROCE) was used to assess performance.

The regression model adopted for this study is stated below:

$$ROCE_{it} = \beta_0 + \beta_1 SA_{it} + \beta_2 EA_{it} + \varepsilon_{it} \quad (1)$$

$$ROCE_{it} = \beta_0 + \beta_1 SA_{it} + \beta_2 EA_{it} + \beta_3 FS_{it} + \varepsilon_{it} \quad (2)$$

Where:

ROCE= Return on Capital Employed, SA= Social Accounting, EA= Environmental Accounting, FS = Firm Size, β_0= The intercept's value, β_1, β_2, β_3= The explanatory variables' coefficient, ε_{it}= Error term, i= Number of sampled companies, t= Period.

3.3. Hypothesis

The following null hypothesis was evaluated in order to test the impact of social and environmental accounting on the performance of banking businesses listed in Nigeria:

$H_0$1: Social and environmental accounting have no significant effect on Return on Capital Employed of banking companies quoted in Nigeria.

$H_0$2: Firm size has no significant effect on the effect of social and environmental accounting on Return on Capital Employed of banking companies quoted in Nigeria.

4. Data Analysis and Interpretation

4.1. Data Analysis

The descriptive analysis of the collected panel data was carried out using the descriptive statistics listed in Table 1. The performance variable, social and environmental accounting, has mean, maximum, lowest, and standard deviation values.

Table 1. *Descriptive Statistics for Banking Companies.*

	MEAN	STD. DEV	MINIMUM	MAXIMUM
CID	7	3.756	1	13
ROCE	4.413	14.445	-110.46	48.09
SA	0.591	0.116	0.27	0.87
EA	0.241	0.227	0	0.88
FS	9.022	0.671	7.08	9.94

4.2. Interpretation

The variables gathered from the audited reports of the banking companies investigated for this study are depicted in Table 1. The mean value of ROCE is 4.413, this indicates that on average 4.413 of return is generated per naira on capital employed by the banks. The standard deviation is 14.445, which indicates variations within the data set which shows fluctuations over the years for the banks.

The minimum value for ROCE is -110.46, which indicates that there are periods in which the banks reported losses. In addition, the SA and EA disclosure indexes have mean values of 0.591 and 0.241, respectively, with standard deviations of

0.116 and 0.227. The mean company size is 9.022, with a standard deviation of 0.671, indicating a close disparity. The fact that the banks have a maximum value of 9.94 and a lowest value of 7.08 indicates that they have a considerable amount of assets.

4.3. Regression Analysis

Tables 2 and 3 shows the findings of the regression analysis used to evaluate hypotheses one and two.

The regression analysis is for model one without the moderating variable and model two with the moderating variable.

Table 2. *Regression Analysis for Hypothesis One.*

Model One				
Banking Companies				
Variable	**Coeff**	**Std. Err**	**T-Stat**	**Prob**
Constant	-1.233	6.523	-0.19	0.854
SA	12.236	8.722	1.40	0.194
EA	-6.568	2.361	-2.78	0.021
Adj R^2	0.0367			
F-Stat/Wald Stat (Prob)	14.34 (0.0008)			
Hausman Test	$chi^2_{(2)} = 5.58$ (0.0616)			
Testparm Test/LM Test	$chi^2_{(1)} = 8.31$ (0.0020)			
Heteroskedasticity Test	$chi^2_{(13)} = 0.61$ (0.4348)			
Cross sectional Independence	3.328 (0.0009)			
Autocorrelation Test	$F_{(1, 12)} = 0.330$ (0.5764)			

Dependent Variable: ROCE. 5% significance level
Source: Researcher's Study (2022).

4.4. Interpretation

4.4.1. Post-Estimation Result

The Hausman test revealed that random effect is the suitable estimator for the model, with a p-value of 0. 0616 for model one being greater than the 5% threshold of significance chosen for the study, which was further validated by the LM test. The LM test result was less than the 5% level of significance which confirmed that the random effect was suitable for the model. The model's heteroskedasticity test result (p=0.4348) was greater than the 5% level of significance, indicating that the model was not affected by heteroskedasticity. The autocorrelation test result for the model had p-value greater than the 5% which revealed that the model did not suffer autocorrelation issues. The cross sectional independence test result for the model showed a p-value less than the 5% which revealed the presence of cross sectional dependence issues. The econometric issue suffered by the model determined the estimation technique adopted for the model.

$$ROCE_{it} = \beta_0 + \beta_1 SA_{it} + \beta_2 EA_{it} + \varepsilon_{it} \quad (3)$$

$$ROCE_{it} = -1.233 + 12.236SA_{it} - 6.568EA_{it} + \varepsilon_{it}$$

4.4.2. Interpretation of Regression Result

The regression analysis result for Model One, as shown in Table 2, revealed: There is a positive association between Social Accounting (SA) and Return on Capital Employed (ROCE) for Banking organizations, as indicated by the coefficient of SA (β_1 = 12.23). Environmental Accounting (EA) and Return on Capital Employed (ROCE) have a negative association (β_2 = -6.56). With respect to the magnitude of the estimated parameter, as SA increases (decreases) by a Naira, it would bring about a ₦12.23 increase (decrease) in ROCE of the banks sampled for this study, as the positive signs portray a direct relationship with the two variables. Meanwhile, as EA increased by one Naira, it brought about a ₦6.56 decrease in the ROCE of these banks during the study periods.

The Adjusted R^2 which measure the proportion of the changes in the Return on Capital Employed (ROCE) as a result of changes in Social Accounting (SA) and Environmental Accounting (EA) for banking sector depicts that about 3.7% of the changes in Return on Capital Employed (ROCE) of the selected listed banking companies in Nigeria, was attributable to the interactions of Social Accounting (SA) and Environmental Accounting (EA), while the remaining 96.3% was from other factors not captured in the model.

The null hypothesis for model One, which asserts that "Social and environmental accounting have no substantial effect on Return on Capital Employed of banking companies quoted in Nigeria," is thus rejected for the banking industry based on the probability of F-statistics of 0.0008 (less than 5%). As a result, social and environmental accounting has a substantial impact on the return on capital utilized by Nigerian banking organizations.

Table 3. *Regression Analysis for Hypothesis Two.*

Model Two				
Banking				
Variable	**Coeff**	**Std. Err**	**T-Stat**	**Prob**
Constant	-71.461	16.050	-4.45	0.000
SA	14.674	11.598	1.27	0.2080
EA	-9.455	5.710	-1.66	0.100
FS	7.701	1.846	4.17	0.000
Adj R^2	0.1391			
F-Stat/Wald Stat (Prob)	7.95 (0.0001)			
Hausman Test	$chi^2_{(3)} = 9.61$ (0.0222)			
Testparm Test/LM Test	$F_{(9, 105)} = 1.08$ (0.3871)			
Heteroskedasticity Test	$chi^2_{(1)} = 108.46$ (0.0000)			
Cross sectional Independence	5.727 (0.0000)			
Autocorrelation Test	$F_{(1, 12)} = 311.150$ (0.0000)			

Dependent Variable: ROCE. 5% significance level
Source: Researcher's Study (2022).

4.5. Interpretation

4.5.1. Post-Estimation Result

The hausman test result for the banking sector model with control variable was less than 5% level of significance, indicating that the fixed effect is the suitable estimator for that model with a *p-value* of 0.0222. The testparm test verified the hausman test result, which had a p-value of less than 5%. The Hausman test result was not supported by the confirmation test (Testparm), which revealed a p-value of 0.3871, which was greater than 5%, proving that Pooled OLS is the best estimating approach for that model. The result of the heteroskedasticity tests for model two (p = 0.000) was lesser than the 5% level of significance and thus revealed that the model did suffer heteroskedasticity issues. The autocorrelation test result for the model had a *p-value* less than the 5% which revealed that the model did suffer autocorrelation issues. The cross sectional independence test result for the model showed a *p-value* less than the 5% which revealed the presence of cross sectional dependence issues.

Regression Equation Results

$$ROCE_{it} = \beta_0 + \beta_1 SA_{it} + \beta_2 EA_{it} + FS_{it} + \varepsilon_{it} \quad (4)$$

$$ROCE_{it} = -71.561 + 14.674SA_{it} - 9.455EA_{it} + 1.846FS_{it} + \varepsilon_{it}$$

4.5.2. Interpretation of Regression Result

The regression analysis results for Model Two, as shown in Table 3, revealed that: When the moderating variable is included, there is a positive relationship between Social Accounting (SA) and Return on Capital Employed (ROCE) for the Banking sector, as represented by the coefficient of SA (β_1 = 14.67). Environmental Accounting (EA) and Return on Capital Employed (ROCE) have a negative association (β_2 = -9.45). With respect to the magnitude of the estimated parameters with the control variable, as SA increases (decreases) by a Naira, it would bring about a ₦14.67 increase (decrease) in ROCE of the banks sampled for this study, as the positive signs portray a direct relationship with the two variables. Meanwhile, as EA increased by one Naira, it brought about a ₦9.45 decrease in the ROCE of these banks during the study periods.

The Adjusted R^2 which measure the proportion of the changes in the Return on Capital Employed (ROCE) as a result of changes in Social Accounting (SA) and Environmental Accounting (EA) for the model depicts that about 13.91% of the changes in Return on Capital Employed (ROCE) of the selected listed companies in Nigeria respectively, was attributable to the interactions of Social Accounting (SA) and Environmental Accounting (EA), while the remaining 86.09% was from other factors not captured in the model. However, the inclusion of the control variable “Firm Size (FS)”, caused a 279% increase in the ROCE for the banking sector.

The null hypothesis for model two, "Firm size does not significantly affect the effect of social and environmental accounting on return of capital employed of banking companies quoted in Nigeria," is rejected based on the probability of F-statistics of 0.0001 (less than 5%) when the moderating variable is included. As a result of this research, it was determined that business size had a moderating effect on the relationship between social and environmental accounting and the return on capital utilized by Nigerian banking organizations.

5. Discussion of Findings

The main objective of this paper is to ascertain the degree of the relationship between social and environmental accounting and performance of banking companies quoted in Nigeria. The study measured performance using return on capital employed, while social and environmental accounting was measured using GRI (2021) index.

Model one investigated the correlation between social and environmental accounting and return on capital employed of banking companies quoted in Nigeria. The findings revealed that social and environmental accounting had a positive significant impact on the performance of Nigerian banking organizations. Model two investigated the moderating effect of firm size on the relationship between social and environmental accounting and performance of banking companies quoted in Nigeria. Firm size had a significant beneficial effect on the association between social and environmental accounting and banking company performance, according to the regression results.

Overall, model on and two regression results revealed significant positive relationships between the variables. Thus, the findings of the study show that social and environmental accounting has statistical significant impact on performance of banking companies quoted in Nigeria. Firm size has significant moderating effect on the relationship between social and environmental accounting and performance of banking companies quoted in Nigeria. The study supports the studies [10, 30, 31, 19, 35, 17, 40, 3], while studies not in agreement with the findings [14, 4].

6. Conclusion and Recommendation

The study examined the effect of social and environmental accounting and performance of banking companies quoted in Nigeria. From the findings, the study concludes that social and environmental accounting has a significant effect on performance on banking companies. The study also concludes that firm size has a moderating effect on the relationship between social and environmental accounting and performance of banking companies in Nigeria.

The study recommends banks be encouraged to continue to report about the impact of their social and environmental activities to the stakeholders of the banks. Policy makers should make policies that will make social and environmental accounting disclosure mandatory for companies.

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