Corporate Sustainability Practices and Corporate Financial Performance of Selected Breweries in Nigeria

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Citation: Okafor, U.I., Philip, E.O. Edet, T.E. & Okon, N.B. (2022). Corporate Sustainability Practices and Corporate Financial Performance of Selected Breweries in Nigeria. *Finance & Economics Review 4(1),* 25-40. https://doi.org/10.38157/fer.v4i1.390

Research Article

Abstract

Purpose: *The nexus between Corporate Sustainability Practices (CSP) and Corporate Financial Performance (CFP) has over the years yielded a mix of positive, negative, and neutral associations across industries and territories. Considering the paradox of economic benefits against negative sustainability implications of manufacturing and consuming alcoholic beverages, the researchers examined the influence of CSP on the CFP of selected breweries in Nigeria. In two hypotheses, the proxies for CSP are Social-Infrastructural-Development Cost, Community-Education-and-Training Cost, and Community-Health-Related Cost, whereas the determinants for CFP are return on equity and prices of shares.*

Methods: *Adopting a causal-comparative research design, data were obtained from the annual financial reports of the companies and the Nigerian Stock Exchange factbooks. The multivariate regression analysis was deployed for estimating the results.*

Results: *The general models for testing hypotheses one and two indicated that corporate sustainability practices do not significantly influence either the return on equity or the market prices of the shares of breweries in Nigeria.*

Implications: *The researchers concluded that changes in the level of CSP were not enough for predicting variations in the CFP of breweries in Nigeria. It was, however, observed that awareness about CSP and the related value is still low among capital market investors and consumers in Nigeria. Hence, breweries are encouraged to be consistent with such practices as the associated benefit may be incremental.*

Keywords: Sustainability Accounting Practices (SAP), Corporate Sustainability Practices (CSP), Corporate Financial Performance (CFP), Breweries, Corporate Social Responsibility Accounting Disclosures (CSRAD)

1. Introduction

Business entities are conventionally established to grow shareholders' wealth through profitability. More often than not, activities toward such objectives adversely affect their operating environment and society at large. For instance, operating and growing breweries can generally result in an environmental disaster, such as global warming and pollution alongside social and economic problems. Specifically, the negative externalities associated with the activities of breweries include but are not limited to carbon

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emission, pollution through effluence, solid waste management problems, and energy consumption (Olajire, 2012), besides social consequences of irresponsible consumption of alcoholic beverages by members of the public. In 2015, the Centers for Disease Control and Prevention in the United States of America (USA) estimated the annual costs of alcohol consumption to be $25 billion for crime-related activities, $13 billion for collisions, and $28 billion for health care; in addition to the cost of a decline in tax revenue due to alcohol-related inefficiencies in productivity at work (Ryan, 2019). While the costs of alcohol-related crime and drunken driving are substantially borne by people other than the drunk; a health-related cost that masks as a private cost to the drunk also results in cost externalities to other taxpayers through increasing pressure and demand on social security and public health care facilities. Hence, the seeming importance of engaging in Corporate Sustainability Practices (CSP) and adequately disclosing same in the annual financial report by breweries.

The concept of sustainability is relatively described within business entities as corporate sustainability practices (CSP), Sustainability Accounting Practices (SAP), Social and Environmental Responsibility Accounting Practices (SERAP), Corporate Social Responsibility (CSR) Accounting Disclosures, and Sustainability Accounting Disclosures (SAD) is rapidly growing into a crucial concern in many territories across the globe. An institutional definition in the Brundtland report (1987) by the United Nations World Commission on Environment and Development underscores sustainable development as the ability to satisfy the needs of the present generation without compromising the ability to satisfy those of the future generations. Therefore, the key sustainability issues arising from the definition are environmental protection, social equality, and economic prosperity. Cascading the concept further into the activities of corporate entities, it entails engaging in social, environmental, and economic activities in consonance with the tenets of sustainable development and reflecting the same in their corporate annual or sustainability reports (Elkington, 2004) as cited in (Henriques & Richardson, 2013). In a related exposition, Holme and Watts (2000) described sustainability accounting practices as a continuous commitment by business entities to engage in certain roles in relation to environmental, social, and economic sustainability in connection with developing the society, improving the living condition of the workforce and their families as well as the community at large. Conceptualized as CSR, another institutional approach by European Commission (2011) defined CSP as actions by companies over and beyond their legal obligations towards society and the environment. Whereas ensuring sustainable development involves all entities: individuals, businesses, non-governmental organizations (NGOs), as well as governments; corporate or business organizations seem at the core of such concern due to unethical business activities that sometimes characterize their operations in the drive for profit.

Highlighting the instance of economic viability in the brewery industry alongside the need to mitigate social and environmental consequences of their operations, Nigerian Breweries Plc. (2018) reported a group total asset base of NGN388,262,869,000, a revenue of NGN350,226,472,000, and a profit after tax of NGN19,437,944,000 in 2018. To further demonstrate the significance of the industry in Nigeria's economy, a liter of most branded beers is consumed in the country at more than twice the price of a liter of Premium Motor Spirit (PMS). As lucrative as the brewery industry may appear, irresponsible consumption of their alcoholic brands has killed, maimed, and disabled many people among other negative externalities associated with their operations. Reporting on specific effects of alcoholism on health, safety, and well-being of people, Howard (2013) stated that alcohol is the most abused consumer good in the USA which unfortunately results in an increased risk of mortality, morbidity, and injuries through accidents, alongside other social vices, environmental concerns, psychiatric and family problems. The researcher, therefore, suggested corporate sustainability practices benchmarked on environmental and social interventions including social orientation and re-orientation approaches as potential strategies for mitigating the negative implications of producing and consuming alcoholic beverages.

Currently, there are rising incidents of public agitations and expectations among a broad range of stakeholders for more corporate sustainability compliance by business entities in different aspects such

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as environmental protection, functional human rights, human capital development, product safety, and so on. For instance, a cross-section of shareholders, employees, host communities, and financial institutions among others expect business entities to be accountable and transparent in their sustainability issues (Aondoakaa, 2015). In the light of the foregoing, it appears exigent for breweries in Nigeria to embrace more social and environmental practices as well as disclose the same in their annual reports. Moreover, Umoren, Isiavwe-Ogbari, and Atolagbe (2016) recommended that business entities should be reporting their various contributions towards mitigating the impact of negative externalities on their operating environment and society. Despite the seeming importance of CSP in maintaining the well-being of different stakeholders and a wholesome planet that supports the going concern principle of businesses, measuring and allocating the cost of social and environmental damages among firms remain difficult as reported by Daferighe (2010). Besides the position in Umoren, Isiavwe-Ogbari, and Atolagbe (2016), it also seems crucial to examine the effect of spending on such concerns on firms' Corporate Financial Performance (CFP).

Corporate sustainability practices by firms have been diversely measured or evaluated by researchers through different frameworks including environmental and social disclosures in the annual reports, Canadian Social Investment Database (CSID), International Standards Organization (ISO-26000), integrated assessment of the European Union, Global Reporting Initiative (GRI) and Kinder Lydenberg Domini (KLD). Whereas the use of KLD appears predominant in the United States of America, the Global Reporting Initiative (GRI), launched in 1997, is currently in the lead among the global frameworks for disclosing CSP. While mandatory reporting guidelines, if existing anywhere may be subjectively restricted to the regulations and standards by financial authorities of such territories, GRI provides the most comprehensive and globally acceptable framework for voluntary sustainability disclosures across firms of various sizes in different territories (Brenda *et al*., 2014). A report by KPMG (2015) asserted that GRI is the most adopted voluntary reporting guideline across the world with 60 percent of all CSR survey reports in 45 countries referencing the GRI. Like many other jurisdictions, there is no mandatory requirement for quantitative accounting disclosure of sustainability information in the financial reports of business entities in Nigeria.

In addition to the lack of a database that ranks sustainability practices by companies in Nigeria, most firms that engaged in CSP did not also benchmark such practices and disclosures on GRI or any other standard framework. Relying more on voluntary environmental and social disclosures in the annual reports nonetheless, interested researchers have not also related them much to breweries within the Nigerian context. Unfortunately, the few empirical studies on the nexus between corporate sustainability practices and corporate financial performance of breweries returned a mix of dissenting results; hence, the need for further research. For instance, while the relationship was positively significant in a study by Akparhuere (2019), no association was indicated in a related study by Asuquo, Temitayo & Raphael (2018). Coincidentally, corporate financial performance was denominated into accounting-based performance measured in both studies through total assets (TA) and return on assets (ROA) respectively but resulted in unrelated findings. Nevertheless, the current researchers assume the popular *apriori* expectation of a positive relationship between CSP and corporate financial performance of business organizations. Thus, the focus of this study is to determine a time series association between Corporate Sustainability Practices (CSP) and Corporate Financial Performance (CFP) of breweries in Nigeria. For a more robust test of the relationship, CFP is further denominated into capital market and accounting-based measurements with the market value of the firm represented by share prices and return on equity respectively as determinants. Similarly, the proxies for corporate sustainability practices are social infrastructural development cost (SIDC), community education and training cost (CETC), and community health-related cost (CHRC).

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Meanwhile, this paper started with an introduction in section one. The remainder is divided into six sections. Section two, which is the theoretical background, empirical literature, and hypotheses is followed by section three, which is the research methodology. While section four is empirical analyses and interpretation of results, section five is the discussion of the findings. Section Six is the conclusion, implication, and recommendations, and finally, section seven is limitations and direction for future research.

2. Theoretical Background, Empirical Literature, and Hypotheses

2.1 Theoretical Background

The brewery sector of Nigeria seems a paradoxical though an important segment of the economy due to its significant profitability indices and contribution to the Gross Domestic Product (GDP), but largely a source of adverse social and environmental implications. Considering the conflicting values of such a sector, organizational ambidexterity and legitimacy theories appear germane for a detailed insight into the subject matter in the current study.

2.1.1. Organizational Ambidexterity Theory

Drawing from the review, research is predominantly controversial in this subject area across industries. Perhaps, due to a poor design and delivery of Corporate Sustainability Practices devoid of shared value and continuous innovation by many firms. Therefore, Organizational Ambidexterity Theory appears a robust explanation for the dynamic interplay of CSP and corporate financial performance (CFP) of business entities. The theory primarily underscores the principles of efficiency through innovation in the management of business organizations for better performance. It is however defined as the capacity of a business entity to be efficient in its current operation and adaptive to structural implications and changes in political, technological, environmental, and societal demands among others (Yu-Shan, Ching-Hsun & Yu-Hsien, 2014). Further Described as sustainable ambidexterity, Pacheco and Vargas (2017) posited that it is mainly about balancing exploitative and exploratory activities for improving corporate reputation. That simply means the ability of a business entity to deliver shared value by simultaneously exploiting its existing operational competencies at the prevailing macroeconomic, environmental, social, and other conditions while exploring new opportunities in adaptation to the dynamism of such prevailing conditions. Moreover, the concept of shared value closely recognizes social and environmental issues as business opportunities explorable by offsetting negative externalities with positive ones to achieve profitability and growth. According to Starkey and Crane (2003), the strategic advantage of the theory includes efficiently harnessing the conventional paradox of commercial and sustainability activities into one strategy capable of growing organizational wealth through better competitiveness. Thus, social and environmental concerns rank as business opportunities to be innovatively explored by firms for an enhanced corporate financial performance.

To effectively create social and environmental values, business entities must discern and adjust to shifts in societal values and expectations. Exploring and adopting best sustainability practices is not only asserted to be strategic in business competitiveness but also for long-term survival (Pacheco & Vargas, 2017). For instance, product safety, pollution control, employees' welfare, solid waste management, use of clean energy, in addition to community development, public orientation on consumption safety, and so on by breweries in Nigeria may improve their profitability, capital market reputation, a wholesome planet, and sustainable patronage from healthy consumers whose lives are not threatened by alcoholism. To such an extent, it becomes much easier to win societal legitimacy and attain the "going concern" projections.

2.1.2. Legitimacy Theory

Suchman (1995) supported by Garst *et al.* (2019) argued that investing in social and environmental values is capable of resulting in unsolicited legitimacy and long-term good reputation, especially in the current global pressure for firms to deliver economic and societal results. Suchman (1995), further highlighted

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that legitimacy theory examines the extent to which societal values, which include environmental concerns are reflected in the operating ethics of business entities. In other words, the extent to which such expectations coincide with corporate goals. Companies, including breweries, are therefore recommended to consistently comply with environmental protection ethics and the norms of their respective operating societies (Guthrie & Parker, 1989; Brown & Deegan, 1998; Reverte, 2009), in addition to disclosing the associated activities in their annual reports. Such practices are more likely to enlarge the bottom line of breweries in Nigeria, besides their attainment of going concern philosophy within the context of a wholesome planet and healthy people.

2.2 Empirical Literature

In a pilot literature review, the researchers observed a dearth of studies on corporate sustainability practices within the context of the brewery industry in Nigeria. For a fair and reasonable review of the construct, however, a spectrum of other industries was additionally covered in no particular order of their social and environmental sensitivity and riskiness. For instance, the exploration and other activities of oil and gas companies are crucial for their essence but hyper environmentally sensitive and risky; thus, resulting in several other societal issues. Land degradation, and water and air pollutions rank among the core negative implications of such activities. Other consequences include poor agricultural yield, death of aquatic life, health hazard through polluted air, and acid rain, which further cause sicknesses and impoverished the local communities.

Besides the primary assumption of a positive correlation between corporate sustainability practices and corporate financial performance of business organizations by current researchers, the foregoing reveals a greater need for such practices benchmarked on the principles of ethics by oil and gas firms. Exploring such a relationship in the oil and gas industry of Nigeria, a study by Adewoye, Olaoye, and Ogundipe (2018) resulted in a significant positive relationship. Adopting *ex post facto* research design and utilizing a fixed effect panel for data analyses, Breusch Pagan Lagrangian Multiplier (LM) and Hausman models were used for estimating the test result. Although the effect of ethical, environmental, and social responsibilities on performance revealed a range of mixed results, their multiplicative effect indicated F-ratio 3.109387 (P value= 0.002652< 0.1,0.05 & 0.01 levels of significance). The researchers, therefore recommended that firms should review their expenditure items to include CSR.

Related research by Daferighe, Akpanuko, and Offiong (2019) investigated measures of social investment accounting disclosures in nexus with financial performance determined through Return on Equity (ROE) of quoted firms in Nigeria. Data for regression were obtained from 2009 to 2015 annual financial reports of fifteen purposively selected quoted firms in the Oil and Gas, Manufacturing, and Building and Construction sectors in Nigeria. Utilizing descriptive statistics for data presentation, regression results revealed that Social Accounting Practices variables denominated into Education Programs Cost and Health Related-Costs were insignificantly positive in association with return on equity, whereas Infrastructural Development Cost indicated a significant but negative association with ROE. It was concluded that investment in social activities was not positively significant in nexus to ROE. Thus, the researchers recommended government which receives taxes from companies also provides basic infrastructures for the society. However, companies may within their financial capacity invest in education programs and health care which could improve their economic benefit for a long-range of time. Interestingly, their findings are almost in direct dissonance with that of Adewoye, Olaoye, and Ogundipe (2018); hence empirically demonstrating controversial research outcomes in this subject area.

Lending credence to the finding by Daferighe, Akpanuko, and Offiong (2019), Eyo, Okafor, and Daferighe (2021) examined the implication of social and environmental responsibility accounting practices (SERAP) on the economic performance of quoted oil and gas firms in Nigeria. Whereas the

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measures of SERAP are environmental protection costs (EPC), community education and training costs (CETC), and community health-related costs (CHRC), the proxy for financial performance is the market value of firms. Adopting *ex post facto* research design and modified Ohlson 1995 share price model, the general model demonstrated insignificant positive adjusted R-square. As all the P-values are not statistically significant, the unstandardized coefficients for EPC, CETC, and CHRC revealed a mix of positive and negative insignificant indices at varying extents. Underscoring the low level of SERAP in their observation, the researchers concluded that the level of SERAP by oil and gas firms in Nigeria did not significantly influence their capital market valuation. While they further inferred that social and environmental public concerns rank as the primary responsibility of the government which receives taxes from business entities, oil and gas companies may cautiously and strategically engage in SERAP to avert financial losses through restiveness and agitations from some disgruntled stakeholders. It was further suggested that increasing SERAP may improve performance in the short or long-range time. More so, ethical practices for promoting organizational going concern philosophy are mainly attainable within a wholesome planet and healthy people.

In a comparative analysis of corporate social responsibility accounting disclosures in relation to their influence on corporate financial performance measured through total assets of listed oil and gas companies and firms operating in the consumer goods sub-sector of the Nigerian economy including breweries, Akparhuere (2019) adopted *ex post facto* research design. Secondary data were obtained from the annual financial reports of the sampled firms. Utilizing a correlation coefficient, coefficient of determination, and simple regression analyses model, the researcher found that donations and gifts significantly influenced the performance of both oil and gas companies and firms in the consumer goods sub-sector. Such firms were therefore recommended to consolidate discretionary CSR practices as a strategy for reducing incidents of agitation in their host communities. Unlike Daferighe, Akpanuko, and Offiong (2019), this outcome is in tandem with an earlier finding by Adewoye, Olaoye, and Ogundipe (2018).

Adesunloro, Udeh, and Abiahu (2019) aimed to ascertain the influence of corporate social responsibility accounting disclosures on the financial performance of Nigerian Breweries Plc. The researchers adopted secondary and primary data obtained through ex post facto using document review and survey using questionnaire as their research designs and instruments respectively. Whereas document review was for generating data from the annual financial reports of the company under review as compared to three selected Nigerian banks; the questionnaire was for obtaining information concerning the influence of CSR accounting disclosures on firms' performance. Results from T-test statistics at a 5% level of significance revealed that Nigerian Breweries Plc did not significantly disclose CSR accounting information in their 2014-2017 annual financial reports as compared to the three surveyed banks. Nonetheless, the observed insignificant CSR accounting disclosures by the company improved its financial performance. That implied that the performance of Nigerian Breweries Plc. was positively influenced by its CSR culture. Hence, the researchers recommended Nigerian Breweries Plc. and other manufacturing companies to be intentional about improving their stakeholders' investment through adequate disclosure of CSR activities.

Adopting *ex-post-facto* research design, Asuquo, Temitayo and Raphael (2018) probed into the effect of sustainability accounting disclosures on the financial performance of three sampled quoted breweries in Nigeria. Data were obtained from the annual financial statements of the three reviewed breweries from 2012 to 2016. Whereas return on Asset (ROA) was the response variable, Economic Performance, Environmental Performance, and Social Performance disclosures were the predictor variables. Their findings indicated that the predictor variables did not have a significant effect on the ROA of the sampled breweries. Thus, in contrast with the outcome of a study by Adesunloro, Udeh, and Abiahu (2019) within the brewery sub-sector but closely in convergence with that of Daferighe, Akpanuko, and Offiong (2019) in the oil and gas sector.

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Despite the importance of the cement industry as a critical success factor for housing and other infrastructural needs of individuals, governments, and corporate entities, the operations of cement companies such as quarrying, crushing, grinding and blending, and packaging rank among major polluting and degrading activities to environmental components such as air, soil, water, vegetation, and so on (Kumar, Singh, Kumar, Sunisha, Preeti, Deepali, & Nath, 2008). Thus, Majid and Abdul (2013) empirically examined the relationship between corporate social responsibility accounting disclosures and Profitability through sales turnover of cement companies in Pakistan. The Survey research design was adopted through a questionnaire method for obtaining primary data, while the Cross-correlation technique was utilized for analyses. However, CSR accounting disclosures were further segmented into environment-related responsibility, customer-related responsibility, community-related responsibility, and legal-related responsibility; and the nexus of each was tested against profitability and sales turnover. Findings indicated a positive and significant relationship between CSR and profitability through sales turnover of the cement companies. Therefore, the researchers suggested managers of business entities constantly communicate their CSR programs to customers and other stakeholders as a means of increasing their market share in the sales of cement.

Another empirical investigation by Okafor, Oji, and Daferighe (2020) aimed to test the influence of social investment cost (SIC) and environmental protection cost (EPC) on the financial performance of quoted cement companies in Nigeria. Denominating financial performance into sales turnover (ST) and market value of firms (MVF) to respectively develop two hypotheses, an ex post facto research design was adopted in the study. Secondary data for analyses were obtained from relevant annual financial reports and Nigerian stock exchange factbooks for 2009-2017. While descriptive statistics was adopted for data presentation, a multivariate regression model was utilized for estimating the test result. However, findings in the test of H1 revealed a significant positive association between the predictor variables and ST. Similarly, an insignificant, though positive nexus was observed between the predictor variables and MVF in the test of H2. Observing a low level of such practices, the researchers remarked that if such low level and inconsistent environmental and social accounting practices (ESAP) could influence the financial performance of cement companies in Nigeria, an increase in ESAP, therefore, holds greater promise for the cement industry. Hence, it was recommended that cement companies should adopt an ethical approach toward expanding investment in ESAP.

In a related study within Nigeria's cement industry, Murtala (2017) investigated the nexus between corporate social responsibility (CSR) investment and the corporate financial performance of Dangote Cement Plc. Ex post facto research design and secondary data were adopted in the research. Corporate social responsibility investment indices which represented the predictor variable were obtained from the annual sustainability reports and accounts for 2012-2016, while corporate financial performance (response variables) were obtained for the same period from annual financial reports and denominated into revenue, profit after tax, and earnings per share. Descriptive statistics were used for data summary and presentation before estimating the linear correlation coefficient (R-square). However, findings revealed a positive relationship between CSR investment and corporate financial performance of Dangote Cement Plc. A further breakdown of the result indicated 67.81%, 54.28%, and 60.79% levels of positive associations between CSR investment and revenue, profit after tax, and earning per share respectively. Hence, the researcher concluded a positive association between the CSR investment of Dangote Cement Plc and its corporate financial performance.

Oba (2012) examined the influence of Corporate Social Responsibility accounting disclosures determined through Community Social Responsibility, Human Resource Management, and Charitable Contribution on the market value of quoted conglomerates as measured by Tobin's Q. Utilizing ordinary least square and logistic regression analyses, the researcher observed a reciprocal positive significant association between

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CSR accounting disclosures and financial performance. Similarly, Olaroyeke and Tabitha (2015) investigated the effect of Corporate Social Responsibility accounting disclosures on the financial performance of manufacturing companies in Nigeria. Utilizing descriptive statistics for analyzing primary data obtained through a questionnaire, their result revealed that Manufacturing companies engaged in CSR accounting disclosure not only to enhance patronage for more profitability, but are also motivated by other factors including corporate outlook, marketing, and advertising strategy, and so on.

2.3 Hypotheses

Relying on the popular *apriori* expectation which is largely in convergence with the underlying theoretical background of the study, the researchers formulated the following hypotheses:

H1: Corporate sustainability practices significantly influence the return on equity of breweries in Nigeria.

H2: Corporate sustainability practices significantly influence the market prices of shares of breweries in Nigeria.

3. Research Methodology

3.1 Research Design

A Causal-comparative research design is adopted through document review as the instrument for obtaining historical data from relevant breweries in Nigeria. As such, all accounting and capital market data were respectively obtained from annual financial reports and the factbooks of the Nigerian Stock Exchange (NSE) for twelve (12) years (2007-2018). However, the data set are objectively verifiable, since they were reliably obtained from audited financial reports and NSE factbooks. The data were further tabulated in a panel form to be more suitable for regression analysis. The sample for the study comprises Nigerian Breweries Plc. and Guinness Breweries Plc. The two breweries were purposively selected from a population of five (5) quoted breweries in Nigeria due to consistency in disclosure of social and environmental accounting information in their annual financial reports, besides the availability of their capital market data for the years under review. Such population as of 2021 included Champion Breweries Plc., Guinness Nigeria Plc., Nigerian Breweries Plc., International Breweries Plc., and Golden Guinea Breweries Plc.

3.2 Theoretical Specification of Model

Figure 1 depicts the research model. This model philosophizes that Sustainable ambidexterity theory entails innovative exploitation of existing organizational capacity while creatively exploring other possibilities embedded in societal, environmental, and economic shared values for further expansion.

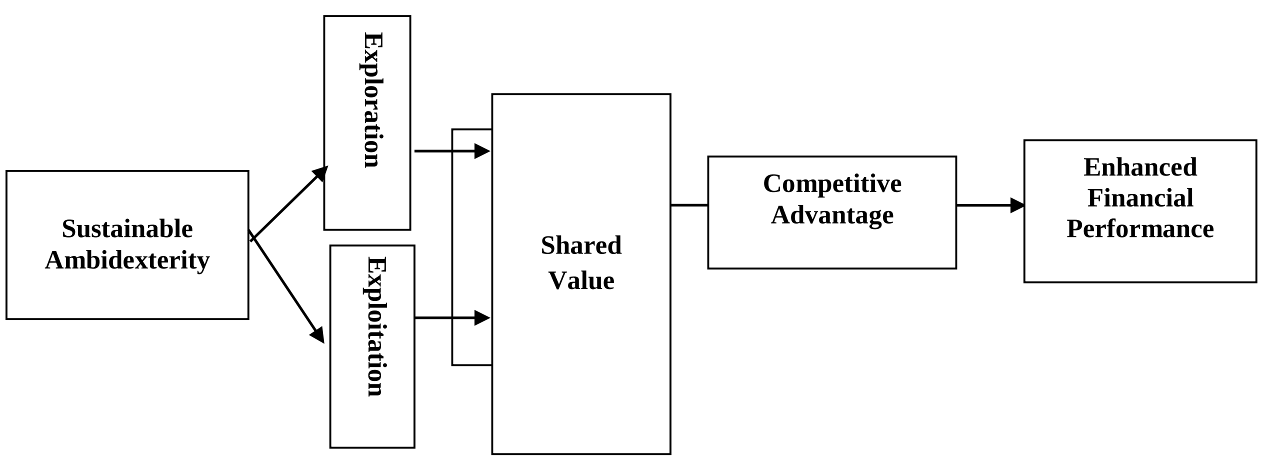

Fig. 1: Ambidexterity Model of Corporate Sustainability Practices

Source: Adapted from Pacheco and Vargas (2017)

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Within the context of this research, such shared values specifically include Social Infrastructural Development Cost (SIDC), Community Education and Training Cost (CETC), and Community Health Related Cost (CHRC as the independent variables. These shared values are moreover expected to improve competitiveness and ultimately enhance financial performance (dependent variable) if innovatively explored by business entities.

3.3 Empirical Specification of Model

In congruence with the structure of the hypotheses, the following multivariate regressions are modeled to test the influence of CSP on accounting and capital market dimensions of corporate financial performance of breweries in Nigeria.

$ROE_i, = \beta_{0i}, + \beta_1 SIDC_i, + \beta_2 CETC_i, + \beta_3 CHRC_i, + \beta_{4LEVi}, + \varepsilon_{i,t}$ ---------------------(3.i)

$P_i, = \alpha_{0i}, + \alpha_1 SIDC_i, + \alpha_2 CETC_i, + \alpha_3 CHRC_i, + \alpha_{4NPi}, + \varepsilon_{i,t}$ ---------------------(3.ii)

Where:

Dependent (Response) Variables: There are two dependent variables for demonstrating the implications of corporate sustainability practices (CSP) on accounting and capital market performances of breweries in Nigeria as predicted in H1 and H2. The respective dependent variables are return on equity (ROE) and the market value of a firm is determined through the prices of shares (P). Although, there have been contentions among researchers about the more effective corporate financial performance measures between accounting and capital market indicators; The adoption of both in this study is purported to expand the robustness of the analytical test for a reliable empirical result. Hoskisson *et al*. (1993) moreover suggested the adoption of both indicators in future research.

Independent (Predictor) Variables: Corporate sustainability practices in this research are represented by social infrastructural development cost (SIDC), community education and training cost (CETC), and community health-related cost (CHRC) as the independent variables. These proxies are applied in both equations (3. i) and (3. ii) as probable predictors of CFP.

Control Variables: Leverage (LEV) and net profit (NP) are adopted as some of the variables other than the predictor variables with a capacity to influence ROE and P respectively. Although both are interrelated, each is reliably linked to their respective multivariate equations in isolation from the other. Whereas leverage is expressed as a debt-equity ratio which also influences the size of return on equity through the amount of interest payable on long-term debt instruments and the size of outstanding equity stock, share prices of quoted companies partly depend on the size of net profit for attractive capital market outlook. In addition to providing necessary information to myriad investors and other interested users of annual financial reports on the capacity of management in their managerial function, net profit expressed further as earnings per share (EPS) is crucial to an average investor for their decision in the capital market. Hence, the need to ascertain the contributions of leverage and net profit alongside those of SIDC, CETC, and CHRC in the behavioral pattern of ROE and P respectively. Moreover, net profit in this context is profit after tax and preferred stocks' dividends (the final bottom line).

Other Denotations in the Equations

i = specific company (ith company) in the numeric series of companies under review;

t = specific time (year) in the time series of the analysis;

A = alpha;

β = beta;

ε = stochastic.

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4. Empirical Analyses and Interpretation of Results

4.1 Test of Hypothesis One

H1: Corporate sustainability practices significantly influence the return on equity of breweries in Nigeria.

The panel data in Table 1 of Appendix 1 are utilized for analyzing this hypothesis by applying the regression model in equation 3.i. Moreover, the statistical package for the social sciences (SPSS) was adopted for estimating the test result of the regression.

Table 3 Estimation of the multiplicative relationship between Intercept, SIDC, CETC, CHRC, LEV and ROE

Regression Statistics	
Multiple R	0.266093
R Square	0.070806
Adjusted R Square	-0.12481
Standard Error	20.08152
Observations	24

Source: SPSS Test Result, 2021

Table 4: ANOVA for Testing the Significance of the General Regression Model

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	4	583.8585	145.9646	0.361955	0.832566
Residual	19	7662.084	403.2676		
Total	23	8245.942			

Source: SPSS Test Result, 2021

Table 5 Estimation of the Isolated Contributions of Intercept, SIDC, CETC, CHRC and LEV to the cumulative behavior of ROE

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.958314	43.1544	0.045379	0.964279	-88.3649	92.28151	-88.3649	92.28151
SIDC	0.0000000942	8.27E-08	1.140207	0.26837	-7.9E-08	2.67E-07	-7.9E-08	2.67E-07
CETC	-0.00000014	2.73E-07	-0.50454	0.619686	-7.1E-07	4.33E-07	-7.1E-07	4.33E-07
CHRC	0.0000000111	3.51E-07	0.031635	0.975093	-7.2E-07	7.46E-07	-7.2E-07	7.46E-07
LEV	41.91768	68.63835	0.610704	0.548632	-101.744	185.5794	-101.744	185.5794

Source: SPSS Test Result, 2021

The regression coefficients for the model parameters in Table 5 are SIDC (β_1 = 0.0000000942), CETC (β_2 = -0.00000014), CHRC (β_3 = 0.0000000111), and LEV (β_4 = 41.91768). The result implies that SIDC, CHRC, and LEV are positively associated with ROE, although at varying extents of significance. Whereas LEV is significant, SIDC and CHRC are insignificant. However, CETC is negatively related to ROE. If other variables are therefore held constant, a unit change in SIDC, CHRC, LEV, and CETC will respectively cause 0.00000942%, 0.00000111%, 4191.768%, and -0.000014% variations on ROE. Moreover, the cumulative association between the parameters and ROE in Table 3 resulted in a negative adjusted R-Square of -12.481% followed by an F-cal of 0.361955 in Table 4, which is less than the F-tab of 2.90 at a 5% level of significance. Like the P-values of key variables in Table 5, F Sig. in Table 4 is also statistically insignificant at 0.832566. Hence, hypothesis (H1) is rejected.

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4.2 Test of Hypothesis Two

H2: Corporate sustainability practices significantly influence the market prices of shares of breweries in Nigeria.

The panel data in Table 2 of Appendix 2 are utilized for analyzing this hypothesis by applying the regression model in equation 3.ii. Moreover, the statistical package for the social sciences (SPSS) was adopted for estimating the test result of the regression.

Table 6 Estimation of the multiplicative relationship between Intercept, SIDC, CETC, CHRC, NP and P

Regression Statistics	
Multiple R	0.266202
R Square	0.070864
Adjusted R Square	-0.12474
Standard Error	66.53348
Observations	24

Source: SPSS Test Result, 2021

Table 7 ANOVA for Testing the Significance of the General Regression Model

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	4	6414.721	1603.68	0.362274	0.832346
Residual	19	84107.38	4426.704		
Total	23	90522.1			

Source: SPSS Test Result, 2021

Table 8 Estimation of the Isolated Contributions of Intercept, SIDC, CETC, CHRC, and NP to the cumulative behavior of P

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	120.1436	30.94939	3.881936	0.001003	55.36574	184.9214	55.36574	184.9214
SIDC	0.000000289	2.56E-07	1.129353	0.272806	-2.5E-07	8.25E-07	-2.5E-07	8.25E-07
CETC	0.000000273	1.05E-06	0.260495	0.797284	-1.9E-06	2.46E-06	-1.9E-06	2.46E-06
CHRC	-0.00000043	1.16E-06	-0.37201	0.714	-2.8E-06	1.99E-06	-2.8E-06	1.99E-06
NP	-0.00000034	9.29E-07	-0.36697	0.717696	-2.3E-06	1.6E-06	-2.3E-06	1.6E-06

Source: SPSS Test Result, 2021

The regression coefficients for the model parameters in Table 8 revealed that SIDC (α_1 = 0.000000289), CETC (α_2 = 0.000000273), CHRC (α_3 = -0.00000043), and NP (α_4 = -0.00000034). This simply means that SIDC and CETC demonstrated insignificant positive nexus with P; while CHRC and NP showed a negative association with P. If other variables are however held constant, a unit change in SIDC, CETC, CHRC, and NP will respectively influence 0.0000289%, 0.0000273%, -0.000043%, and -0.000034% variations on ROE. The joint relationship between the parameters and P in Table 6 yielded a negative adjusted R-Square of -12.474% supported by an F-cal of 0.362274 in Table 7, which is less than the F-tab of 2.90 at a 5% level of significance. Similar to the P-values of key variables in Table 8, F Sig. in Table 4.7 also returned a statistically insignificant result at 0.832346. Therefore, hypothesis (H2) is rejected.

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5. Discussion of the Findings

Although the coefficients for the parameters in the analyses of both regression equations yielded a mix of negative and insignificant positive contributions to variations in the response variables, the general regression models indicated statistically insignificant P-values and F sig values. This implies that the pattern of Corporate Financial Performance (CFP) with return on equity (ROE) and market prices of shares (P) as determinants is not adequately predictable or explainable by Corporate Sustainability Practices (CSP) denominated into Social Infrastructural Development Cost (SIDC), Community Education and Training Cost (CETC), and Community Health Related Cost (CHRC). Hence, such behavioral pattern of CFP as shown in the study may be attributable to proxies for CSP outside the scope of this study, a greater level of CSP by breweries, or other variables than CSP. For instance, leverage demonstrated a significant relationship with ROE. In dissonance with the popular *apriori* belief, however, the research is in tandem with some earlier related studies in various sectors. For instance, Bilal, Omar, and Omar (2016) in Jordan, Chetty, Naidoo, and Seetharam (2014) in South Africa, and Asuquo, Temitayo, and Raphael (2018) in Nigeria observed an insignificant relationship between CSP and CFP. Specifically, Asuquo, Temitayo, and Raphael (2018) could not establish significant nexus between sustainability accounting disclosures (denominated into Economic Performance, Environmental Performance, and Social Performance disclosures) and return on assets (ROA) of sampled breweries in Nigeria. Perhaps, the current analysis is a practical demonstration of an earlier recommendation by Elena, Lijuan, and David (2017) supported by Dolores *et al*. (2019) that stratifying and measuring CSP within specific constraints of sectors, geographical regions, types of disclosures, and different thresholds of organizations' sizes is necessary for objective, reliable, and comparable relationship with CFP.

6. Conclusion, Implication, and Recommendations

The researchers conclude that the level of corporate sustainability practices (CSP) by breweries did not significantly influence their corporate financial performance (CFP). In other words, changes in the level of CSP were not enough for predicting variations in the CFP of breweries in Nigeria. The outcome lends empirical credibility to the argument by exponents of stockholder theory that CSP is a philanthropic action and the responsibility of the government, which could be harmful to the CFP of companies by distorting optimal resource allocation (Lee, Seo & Sharma, 2013). Thus, the theory seems to possess an explanatory power in the current research findings. However, the current researchers observed a low level of corporate sustainability practices among breweries in Nigeria which may be inadequate to influence significant corporate financial performance in their business results. Hence, the insignificant positive coefficient contributions by SIDC and CHRC to ROE and insignificant positive contributions by SIDC and CHRC to P may influence CFP in the long run or with an increase in the level of CSP. Eyo, Okafor and Daferighe (2021) did not only admit that the consciousness of corporate sustainability practices was rapidly on the increase across countries and industries, but also asserted that the extent is relatively dependent on some factors such as nature of the industry, regional and national bandwagon effect, economic development, predominant psyche among investors and consumers, and personal orientation among others. Perhaps, breweries, investors, and beer consumers in Nigeria are influenced to varying extents by some of these factors on the matters of CSP. However, breweries may still engage in corporate sustainability practices as an ethical approach to sustaining wholesome earth and healthy people (active and potential customers) for achieving their 'going concern' objective. The implication of the findings however suggests that breweries should be financially cautious when engaging in CSP as the government that imposes and collects taxes from them is mainly expected to brace up to the full responsibility of providing social infrastructure, community education, and training programs, and community health needs for those negatively affected by brewing activities and adverse externalities of alcohol consumption. Similar to Eyo, Okafor, and Daferighe (2021:85), the researchers recommend:

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Breweries should be financially cautious and protect the interest of stockholders if they must engage in CSP for any reason. Since the public awareness of CSP and the related value relevance is still low among capital market investors and consumers in Nigeria, breweries are therefore encouraged to be more strategic about such practices as the associated benefit may be increasingly gradual. Beyond the short-term corporate financial performance, the 'going concern' philosophy of breweries is mainly attainable within a wholesome planet and healthy people. Hence, an ethical approach to CSP is crucial for the long-term survival of breweries in Nigeria.

7. Limitations and Direction for Future Research

The study was constrained by the inadequacy of relevant data from selected breweries in Nigeria. Most breweries in Nigeria either did not report their sustainability practices for some of the relevant years or reported them in a scanty manner and under inconsistent sections of their annual financial reports. Hence, the adoption of Nigerian Breweries Plc. and Guinness Nigeria Plc. as the sample for the study out of 5 quoted breweries in Nigeria. While such constraint impaired the robustness of the study, the researchers suggested the following direction for future studies.

Other researchers should increase the determinants for corporate sustainability practices, the proxies for corporate financial performance, the number of years to be studied, and adopt varying analytical models in order to further verify the relationship between the variables. Perhaps, such studies will provide a more robust result about the relationship.

In addition to the linear estimate of the nexus between corporate sustainability practices and corporate financial performance of breweries in Nigeria, it is necessary to identify other forms of association that may exist between the variables in the short and long range of time. More so, sustainability practices are relatively new among firms in Nigeria and most of the prior research yielded controversial, contradictory, and inconsistent linear results.

Authors' Contributions: Uchenna Israel Okafor conceived and structured the idea, Uchenna Israel Okafor and Etim Okon Philip reviewed related literature. While Theresa Eyo Edet and Nse Bassey Okon obtained relevant data, Uchenna Israel Okafor analyzed the data and compiled the research report.

Conflict of Interest: The authors declare no conflict of interest.

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Appendix 1

Table A1: Panel Data for ROE, SIDC, CETC, CHRC, and LEV

Company	Year	ROE	SIDC (₦)	CETC (₦)	CHRC (₦)	LEV
Guinness Nig Plc	2007	33.79	135,353,000	0	3,100,000	0.56
	2008	32.18	146,115,000	0	0	0.51
	2009	42.96	186,868,620	200,000	406,000	0.57
	2010	40.17	77,926,144	0	0	0.56
	2011	44.51	46,133,552	810,000	3,831,188	0.56
	2012	37.04	130,912,598	775,000	8,221,000	0.61
	2013	25.59	32,470,000	5,075,000	4,284,000	0.62
	2014	21.25	1,667,000	1,520,000	8,219,000	0.66
	2015	16.13	9,957,000	1,250,000	0	0.61
	2016	4.84	33,811,000	16,195,000	17,979,000	0.70
	2017	4.48	0	1,775,000	10,000,000	0.71
	2018	7.67	5,000,000	1,775,000	5,000,000	0.43
Nigerian Breweries Plc	2007	43.87	42,912,060	0	2,029,964	0.52
	2008	79.75	27,333,908	0	300,000	0.69
	2009	59.93	100,517,175	26,864,500	34,193,300	0.57
	2010	60.45	67,123,955	4,590,000	3,450,000	0.56
	2011	48.96	40,400,000	11,300,000	15,375,000	0.67
	2012	40.71	81,674,450	16,873,300	801,150	0.63
	2013	38.35	207,193,655	55,346,226	71,392,669	0.51
	2014	24.74	134,158,543	70,193,607	6,045,000	0.51
	2015	22.10	131,064,450	62,475,316	28,506,102	0.55
	2016	17.13	169,223,200	2,052,625	5,000,000	0.55
	2017	18.53	56,522,569	6,250,000	14,113,425	0.57
	2018	11.65	46,003,167	4,475,000	7,222,500	0.57

Source: Researchers' Compilation, 2021

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Appendix 2

Table A2: Panel Data for P, SIDC, CETC, CHRC, and NP

Company	Year	P (₦)	SIDC (₦)	CETC (₦)	CHRC (₦)	NP (₦)
Guinness Nig Plc	2007	130.00	135,353,000	0	3,100,000	14,227,302
	2008	99.88	146,115,000	0	0	15,799,575
	2009	127.50	186,868,620	200,000	406,000	19,806,485
	2010	190.56	77,926,144	0	0	20,786,191
	2011	250.00	46,133,552	810,000	3,831,188	26,538,501
	2012	275.00	130,912,598	775,000	8,221,000	22,861,423
	2013	236.00	32,470,000	5,075,000	4,284,000	20,933,616
	2014	168.15	1,667,000	1,520,000	8,219,000	16,123,378
	2015	120.40	9,957,000	1,250,000	0	15,667,379
	2016	80.00	33,811,000	16,195,000	17,979,000	4,415,623
	2017	94.00	0	1,775,000	10,000,000	10,186,330
	2018	72.00	5,000,000	1,775,000	5,000,000	13,386,248
Nigerian Breweries Plc	2007	49.00	42,912,060	0	2,029,964	27,357,040
	2008	38.91	27,333,908	0	300,000	36,777,860
	2009	54.45	100,517,175	26,864,500	34,193,300	41,662,334
	2010	70.10	67,123,955	4,590,000	3,450,000	44,966,614
	2011	94.42	40,400,000	11,300,000	15,375,000	56,397,191
	2012	147.00	81,674,450	16,873,300	801,150	63,932,031
	2013	167.90	207,193,655	55,346,226	71,392,669	69,171,377
	2014	165.30	134,158,543	70,193,607	6,045,000	66,860,899
	2015	136.00	131,064,450	62,475,316	28,506,102	62,229,154
	2016	142.00	169,223,200	2,052,625	5,000,000	52,903,161
	2017	134.90	56,522,569	6,250,000	14,113,425	57,121,060
	2018	85.50	46,003,167	4,475,000	7,222,500	36,951,548

Source: Researchers' Compilation, 2021

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