

## Effect of Social and Environmental Disclosures on Performance of Non-Financial Firms in Nigeria

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### Abstract

*This work empirically investigated the effect of social and environmental disclosures on performance of non financial firms in Nigeria. The study is vital as it portrays the extent to which social and environmental disclosures influence firms' performance. In order to determine the relationship between social and environmental disclosures and firms performance, some key proxy variables were used in the study, namely corporate social responsibility disclosure and environmental disclosure; firms' performance is however represented by NAPS. Two hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using panel regression model. The research design used is Ex Post Facto design and data for the study were obtained from the NSE Factbook and published annual financial reports of the entire 112 non financial firms quoted on NSE with data spanning from 2011-2018. The findings generally indicate that corporate social and environmental disclosures have significantly influenced firms' performance at 5% significant level. Based on this, the study concludes that social and environmental disclosures have positively improved firms performance over the years. The study however suggests that firms should have positive disposition towards social and environmental friendly practices and also disclose more of these information in their annual reports as the level of these information disclosures have exerted significant influence on firms' performance over the years.*

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**Keyword:** Social Disclosure; Environmental Disclosure; Firms Performance

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## **1.0 Introduction**

The increase in global environmental awareness and the campaign for sustainable economic development is redirecting the attention of corporate organizations towards environmental sensitivity. The need for sustainability has caused an emergence of many global institutions enunciating varying norms that guide human interaction with the environment (Ngwakwe 2018)

The use of natural resources and continuous emissions of greenhouse gases by industries around the globe are on the increase. This is traceable to industrial revolution of late 18th century where economic activities in many areas migrated from agriculture to manufacturing. Production shifted from its traditional locations in the home and thatched workshops to factories. The industrial revolutions lead to economic improvement for most people in the industrialized society. These economic developments are not without costs. Industrialization which required the use of natural resources including energy brought about factory pollutant and greater land use, which harmed the natural environment (Dibua and Onwuchekwa, 2015).

This is evidenced in environmental degradation and atmospheric pollution generally experienced in the world and particularly in Nigeria today. However, sustainable development as is generally known focuses on the creation of wealth and prosperity, whilst considering the true importance of social and environmental aspects, allowing business and public organizations to meet triple bottom line in sustainable management (Eze, Nweze, Enekwe, 2016).

In Nigeria, there are National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007, National-Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2008, Environmental Impact Assessment Act 2004, Harmful Waste (Special Criminal Provision) Act 2004, Nuclear Safety and Radiation Protection Act 2007 which centered on review of regulations on air and water quality, discharge of effluents and other harmful substances as well as control of other forms of environmental pollution.

Some corporations in these countries are becoming conscious of their international market and are creating appreciable effort as regards to environmental practices. The result of sampled industries in Nigeria shows that few companies are becoming environmental friendly (Okafor 2018). However a large number of firms are still apathetic about their environmental and social responsibility. Based on this observation, this study considered it imperative to examine the relationship between environmental disclosures and firms performance.

## **1.2 Statement of Problem**

The study on social and environmental disclosures have been greeted with different measurements and definitions based on the researchers scope of the study. Thus, the scope of the study on social and environmental disclosures is too wide that little research cannot fill the gap in the literature. Although studies have been done on social and environmental disclosures especially in the developed nations which were faced with a lot of controversies (Mizuno 2017)

In the developed nations, Guthrie, Cuganesan and Ward (2016), Pratten and Mashat (2014), Patten (2012), Kowaleski (2014), Brockman (2015), Adjound and Amar (2015), Amran and Siti-Nabiha (2017), Menassa (2010) reported significant positive association between the level of social and environmental disclosures and firms performance. On the contrary, the studies of Makori and Jagong (2013), Lang (2016), Domenico (2014), etc found insignificant negative effect. Thus, there was no agreement on the effect of social and environmental disclosures on performance of firms in the developed nations which calls for further investigation and clarifications.

In the developing nations; Yusuf (2016), Jeroh and Okoro (2016), Bassey, Effiok and Eton (2013), Ifurueze, Lydon and Bingilar (2013), Ijeoma (2015), Kanwal, Khanam, Nasreen and Hameed (2013) found significant positive relation between social and environmental disclosures and firms performance. In disagreement, Ezejiolor, Rachael and Chigbo (2016), Dibua and Onwuchekwa (2015), Emeakponuzo and Udih (2015), Bessong and Tapang (2016), etc reported insignificant negative effect. Thus, it suffices to say that, it is unclear whether performance causes social and environmental activities or whether social and environmental activities cause performance in the developing nations which also calls for further investigation and clarifications.

To account for this, the present study adapted and modified the models of Brockman (2015) and Kanwal, Khanam, Nasreen and Hameed (2013). Also among the empirical studies reviewed by the researcher as shown above, the studies concentrated on four major sectors i.e consumer goods sector, industrial goods sector, financial service sector and oil and gas sector. The present study however extended it to 10 sectors of NSE ranging from agriculture, conglomerate, construction/real estate, consumer goods, health care, information communication technology (ICT), industrial goods, natural resources, oil and gas and service sector. This is to capture the real effect of social and environmental disclosures on firms' performance in Nigeria.

To achieve this purpose, the following hypotheses were formulated:

**H<sub>01</sub>:** Corporate Social Responsibility Disclosure has no significant effect on firms Performance

**H<sub>02</sub>:** Environmental Disclosure has no significant effect on firms Performance

## **2.0 Review of Related Literature**

### **2.1.1 Social and Environmental Disclosures**

Friedman (2017) sees social and environmental disclosures (SED) as an action by a firm, which the firm chooses to take, that substantially affects identifiable social stakeholder welfare. A socially responsible corporation should take a step forward and adopt policies and business practices that go beyond the minimum legal requirements and contribution to the welfare of its key stakeholders. Corporate social responsibility is also called corporate conscience or corporate social performance and duties perform by organizations to the society in which they operate such as, protection of the environment, provision of social amenities, donations to health organizations, charitable contributions to approved organizations and so on (Odetayo and Adeyemi 2014).

Social and environmental disclosures are disclosures related to company's policies, attitudes or actions toward environmental impact, emissions, pollution, cleaning, planting, or energy efficiency. It is a disclosure is generated by environment accounting system which is part of overall environmental information that is disclosed by company (Ngwakwe, 2018).

According to Dyllick and Hockerts (2016), social and environmental disclosures may be defined as any information that a firm makes public, typically within or alongside its annual accounts or in a stand-alone report that relates to its performance, standards or activities under the corporate social responsibility umbrella. Such documents are most commonly known as sustainability reports, but they are also variously known as corporate social responsibility reports, eco-reports, and corporate accountability reports. The documents are believed to convey important information regarding the extent to which a firm's activities are sustainable, defined as one which can service the needs of all its stakeholders without limiting its ability to meet the needs of any potential future stakeholders by maintaining its base of environmental, social and economic capital

Social and environmental disclosures may be mandatory, a legal requirement to deliver this information or voluntary, where the extent and nature of reporting may vary substantially between firms. Over time, mandatory reporting requirements have been introduced in a wider variety of countries as disclosure regulations have developed, and this resulted in a predictable increase in disclosure levels in the affected countries (Eze, Nweze, and Enekwe, 2016)

The study of Yusuf (2016), Kanwal, Khanam, Nasreen and Hameed (2013) etc measured social and environmental disclosures (SED) using Corporate Social Responsibility Disclosure (CSR D) while Adjound and Amar (2015), Brockman (2015), measured social and environmental disclosures (SED) using environmental disclosures.

For the purpose of this research, the present study developed a model fit on social and environmental disclosures using the following Indexes; Corporate Social Responsibility Disclosure (CSR D) and Environmental disclosure (ED).

### **2.1.1.1 Corporate Social Responsibility Disclosure**

In recent years, companies were paying earnest attention to demonstrate their commitment to CSR by including it in the information provided to their stakeholders (Kotonen, 2009). Although some of the researchers name this disclosure as CSR reporting (Khan, 2010), corporate social disclosure (Menassa, 2010), social and environment reporting (Guthrie, Cuganesan and Ward, 2016) and corporate social reporting (Amran and Siti-Nabiha, 2017), the fundamental was referring to the same scenario which was to report the companies' CSR activities to the public. Researchers around the globe studied their countries' Corporate Social Responsibility disclosure level to indicate the awareness of Corporate Social Responsibility practice.

The concept of CSR requires that companies should map out and give effect to specific programmes in accordance with a well defined social policy. Business social responsibility exists and can be felt in many facets in the companies' corporate relationship with stakeholders such as suppliers, customers, employees, host community, owners of businesses, creditors, management,

government and the society (Ohiokha, Odion and Akhalumeh, 2016). This concept may relate to the tackling of pollution problems, poverty and ethnic discrimination and parochial interests, product safety, misleading advertising, consumer complaints and smuggling.

The definition of CSR is not abstruse. According to Business for Social Responsibility (BSR), corporate social responsibility is defined as achieving commercial success in ways that honour ethical values and respect people, communities and the natural environment. McWilliams and Siegel (2010) describe CSR as actions that appear to further some social good, beyond the interests of the firm that is required by law. A point worth noting is that CSR is more than just following the law.

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### **2.1.1.2 Environmental Disclosures**

Environmental Disclosure is a disclosure on the control of emissions and effluents into environment. It constitutes the use of materials, processes, or practices to reduce, minimize, or eliminate the creation of pollutants or wastes. It includes practices that reduce the use of toxic or hazardous materials, energy, water, and other resources (Ijeoma, 2015).

According to Ngwakwe (2018), waste produced by a process often has to be processed before being released to the environment. Some of the waste can be handled by the company itself, other waste is better handled by external waste treating companies. Handling of the waste causes environmental costs either way. The cost of waste transportation is also considered an environmental cost to include depletion of natural resources, noise and aesthetic impacts, residual air and water emissions, long-term waste disposal.

In Nigeria, National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007 & 2008, Environmental Impact Assessment Act 2004, Harmful Waste (Special Criminal Provision) Act 2004, Nuclear Safety and Radiation Protection Act 2007 etc explicitly stated the compliance laws to be strictly adhered to by firms whose activities are indulged on environmental practices.

### **2.1.2 Firms Performance**

Corporate performance can be summarized to mean a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Okeke, 2015).

It was this definition that prompted consideration of alternative measures of performance so that the response of social and environmental disclosures' (SED) to firms performance (FP) can be

statistically established and generalized rather than relying on SED behaviour to a particular performance measure.

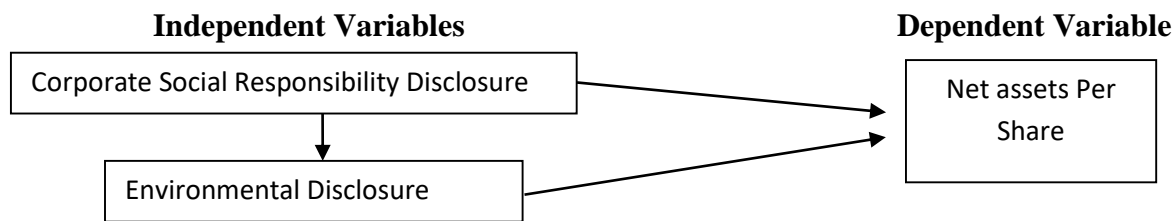
Net Assets Per Share were used as a performance measurement in the prior expectations of Brockman (2015), Kanwal, Khanam, Nasreen and Hameed (2013), Nahiba (2017) etc

For the purpose of this study, net asset per share (NAPS) was used. This was captured as Net Assets divided by Paid up Capital i.e (NAPS)

This is expressed mathematically as

$$\text{NAPS} = \frac{\text{Net Assets}}{\text{Paid up Capital}}$$

**Figure 1: The Diagram of Conceptual Framework**



**Source:** Researcher’s Concept (2020)

## 2.2 Theoretical Framework

### 2.2.1 The Stakeholders’ Theory

The theoretical foundation of this paper is anchored on the “Stakeholders’ Theory”. This theory was propounded by Freeman in the year 1983. The theory sees corporate organizations as the elements of the social system or group where the firm’s success is dependent upon the successful management of all the relationships that a firm has with its stakeholders; those groups without whose support the organization would cease to exist. Freeman’s stakeholders’ theory asserts that, managers must satisfy a variety of constituents (example, employees, customers, suppliers, local community and so on) who can influence the firm’s outcomes. According to this view, it is not sufficient for managers to focus exclusively on the needs of stockholders, or the owners of the business. This implies that it can be beneficial for the firm to engage in certain environmental activities that non-financial stakeholders perceive important, because without this, these groups might withdraw their support from the business.

The stakeholders’ theory proposed an increased level of environmental awareness which creates the need for companies to manage these interests (groups’ interest) in order for them to become environmentally friendly towards the environment in which the business is domiciled. The main



concern of the stakeholders' theory in environmental accounting is to address the environmental disclosure elements and valuation and its inclusion in the financial statements for external users consumption.

Summarily, the stakeholder theory illustrates that the firm has one and only one goal – to satisfy the desires of shareholders by making profits. However, profit may not be attainable if the environment in which the business operates is neglected.

Thus, the study is anchored on stakeholders' theory, as its concern is to encourage business managers to carry out environmental practices which the non- financial stakeholders consider very important so as to maximize stakeholders' value as well as minimize environmental costs.

## **2.3 Empirical Review**

### **Environmental Disclosures and Firms Performance**

Pratten and Mashat (2014) found significant positive association between the level of environmental disclosures and performance of manufacturing firms in Canada. The study used OLS and measured social and environmental disclosure using the index of environmental disclosure and recommend for firms to comply with this disclosure as it has positively influence firms performance over the years.

Patten (2012) in his study on corporate social and environmental disclosures and profitability level of listed manufacturing firms in India adopted the variables of waste management disclosure and return on capital employed with the use simple regression model and found significant positive association between waste management disclosures and firms ROCE. The study however concludes that environmental information disclosure influences firms' performance.

Kowaleski (2014) on effect of non financial information on shareholders' investment decision making explored the statistical test tool of OLS, using the variable of ROA and environmental disclosures as index for non financial information and found that the level of firms' environmental disclosures influences its performance. The study recommends for high level of this disclosure in corporate reporting for investors' consumption.

This seems agreeable with the study of Gelb (2017) on environmental disclosures and corporate performance in Japan who found significant positive between the level of environmental disclosure of firms and performance measured by ROA.

This is in disagreement with the study of Makori and Jagong (2013) who explored the test tool of simple regression and found that environmental disclosure is negatively related to firms performance measured by return on investment (ROI).

Adjound and Amar (2015) on effect of non financial information disclosures on performance of manufacturing firms in France explored the test tool of simple regression emphasizing on the environmental aspect of non financial reporting and found significant positive association between

the level of environmental disclosures and firms performance measured by ROA. The study concludes that environmental disclosures have positive impact on firms performance.

This also agrees with the study of Brockman (2015) who on the same vein established the statistical test tool of OLS and collected data from the annual reports and accounts of the selected listed manufacturing firms in Italy and found significant positive association between environmental disclosure and firms' performance measured by Net Assets Per Share. The study concludes that environmental disclosures reflect useful information that may have financial effect on investment decisions.

This is not in agreement with the priori expectations of Lang (2016) who found social and environmental disclosures negatively related with firms performance over the years. The study explored the test tool of regression model and concludes that the level of firms environmental disclosures cringes her performance.

The study of Nahiba (2017) on non financial disclosures and performance of manufacturing firms in India used the variable of environmental disclosures, corporate governance disclosure and firms Net Assets Per Share. The study used regression model and found significant positive association between non financial disclosures and firms performance over the years.

### **Corporate Social Responsibility Disclosures and Firms' Performance**

Menassa (2010) in his study on corporate social responsibility used logistic regression model and argues that corporate social responsibility disclosure has significant implications on firms' performance. The study however gives a better understanding to the users of annual reports on the influence of Non-Financial Information disclosure on firm's profitability. Based on this finding, the study recommended that firms should improve on its corporate social responsibility disclosure as it influences firms' performance.

This is in line with the study of Yusuf (2016) used dummy variables and explored the test tool of regression model and found significant positive effect between corporate social responsibility disclosure (CSR) and firms performance.

Guthrie, Cuganesan and Ward (2016) in their study on social and environmental reporting and its effect on performance of food and beverage firms in Australia note that quality social and environmental disclosure influences firms performance. The study explored the use of dummy variable and applied the test tool of OLS and recommended that shareholders should look beyond the quantitative information in the companies report and its footnote. Much emphasis should also be placed also on qualitative information provided in the companies report for investment decision making.

This is contrary to the studies of Amran and Siti-Nabiha (2017), in their study on corporate social reporting in Malaysia established simple regression model and found significant negative relationship between corporate social reporting and firms' performance. The study recommended on the relevance of quantitative information sufficed in the companies report.



This is disagrees with the study of Wibowo (2015) on effect of non financial disclosures on performance of Italian listed Firms explored simple regression model who measured non financial information using corporate social responsibility disclosure and found positive correlation between CSR disclosure towards financial performance. The study however concluded that CSR disclosure has improved firms performance.

Shil and Paramanik (2009) examined CSR disclosure and firms' performance in Bangladesh and established test tool of logistic regression model using dummy variables and concluded that such disclosure adds value to firms reporting for stakeholders' consumption.

This is also in agreement with the prior expectations of Khaveh, Nikhashemi, Yousefi, and Haque (2014) who found positive correlation between CSR disclosures towards financial performance. The study established the statistical tool of OLS and recommended that corporate social responsibility disclosure should be encouraged and should form skeletal part of corporate reporting for stakeholders' perusal.

According to Uwaloma and Egbide (2016), making research on sample of 41 listed companies in Nigerian Stock Exchange for the period of 2015. Multiple regression analysis was employed to analyze the data. The study revealed that there is a significant negative relationship existed between firm's financial performance measured by RONW and the level of corporate social responsibility disclosures.

The study of Javed, Saeed, Lodhi and Malik (2013) suggest that there is a positive relationship between firms' financial performance (ROA), economic and legal responsibilities and negative relationship in the case of ethical and discretionary responsibilities. The study used OLS and concludes that CSR by corporate sector in Kenya provides a healthy environment for the country and promotes a culture in which laws are abided willingly.

Domenico (2014) used samples from Italian firms and suggest a weak positive association between corporate social performance and financial performance. The study explored the statistical tool of regression model and concludes that corporate social responsibility disclosure has no significant effect on financial performance of firms measured by ROE in Italy.

Kanwal, Khanam, Nasreen and Hameed (2013) also attempted on the relationship between firm performance and CSR in different KSE (Kenya Stock Exchange) listed companies and found a positive correlation between these two variables using OLS (CSR & NAPS). They suggest that CSR activities give dual benefits to the firm. At one end they enhance a positive image in the minds of their stakeholders on the other hand improve their financial position.

## **2.4 Summary of Literature**

In the developed nations, Guthrie, Cuganesan and Ward (2016), Pratten and Mashat (2014), Patten (2012), Kowaleski (2014), Brockman (2015), Adjound and Amar (2015), Amran and Siti-Nabiha (2017), Menassa (2010) reported significant positive association between the level of social and environmental disclosures and firms performance. On the contrary, the studies of Makori and

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To account for this, the present study adapted and modified the models of Brockman (2015) and Kanwal, Khanam, Nasreen and Hameed (2013). Also among the empirical studies reviewed by the researcher as shown above, the studies concentrated on four major sectors i.e consumer goods sector, industrial goods sector, financial service sector and oil and gas sector. The present study however extended it to 10 sectors of NSE ranging from agriculture, conglomerate, construction/real estate, consumer goods, health care, information communication technology (ICT), industrial goods, natural resources, oil and gas and service sector. This is to capture the real effect of social and environmental disclosures on firms' performance in Nigeria.

### **3.0 Methodology**

This study adopts ex-post facto design. This was adopted based on the fact that our data is secondary data that exists already which cannot be manipulated or controlled. The population of the study consists of the entire 112 non financial firms quoted on NSE as at 2019 business list covering from 2011-2018. The use of quoted companies on NSE could be justified based on availability and reliability of their financial data. Out of 112 firms that formed our sample size, 5 firms have empty financial information within the period under study (*Golden Guinea Breweries Plc, Evans Medical Plc, Juli Plc, Multi-Trex Integrated Foods Plc and Nigerian German Chemical Plc*) which was removed. Based on this, a total of 107 firms formed our sample size with 856 observations.

The study employed panel data from secondary sources which are quantitative in nature. The data were obtained from the NSE Factbook and annual reports and accounts of the firms. The technique of data analysis employed in this study is the multiple regression analysis. The study adopted this technique to ascertain the effect of the firm social and environmental disclosures (CSR and ED) on firms' performance which was measured using net assets per share (NAPS). The data was analyzed using STATA 15 statistical package, and the outcome was used to test the hypothesis formulated for the study after conducting necessary tests. Various robustness tests such as test for multi-collinearity between the independent variables were carried out to improve the validity of the results obtained.

### 3.1 Operationalization and Measurement of Variables

#### 3.1.1 Dependent Variable

The dependent variable in this study is Firms' Performance and it was proxy and measured using Net Assets Per Share. This is in harmony with the works of Nahiba (2017), Brockman (2015) and Kanwal, Khanam, Nasreen and Hameed (2013)

#### 3.1.2 Independent Variable

The independent variables of Social and Environmental Disclosures were proxy using corporate social responsibility disclosure as used by Yusuf (2016) while Brockman (2015) measured social and environmental disclosures using environmental disclosure.

The independent variables are therefore measured as follows:

##### 3.1.2.1 Corporate Social Responsibility Disclosure (CSR)

Corporate Social Responsibility Disclosure is measured using disclosure index adopted from the Global Reporting Initiative as used in the study of Ramin, Klaus and Frank (2016), Wibowo (2015), Khavesh, Nikhashemi, Yousefi and Haque (2014). A dichotomous procedure by (GRI) was applied in scoring the items whereby specifically, a "1-point" score was awarded for each item that is disclosed in the annual report and otherwise, a "0-point".

##### 3.1.2.2 Environmental Disclosure (ED)

Environmental disclosure is measured using disclosure index adopted from the Global Reporting Initiative as used in the study of Pratten and Mashak (2014), Kowalewski (2014), Adjaoud and Amar (2015), Lang (2016). A dichotomous procedure by (GRI) was applied in scoring the items whereby specifically, a "1-point" score was awarded for each item that is disclosed in the annual report and otherwise, a "0-point".

### 3.2 Model Specification

In line with the previous researches, the researcher adapted and modified the Models of Kanwal, Khanam, Nasreen and Hameed (2013) and Brockman (2015) in determining the effect of social and environmental disclosures on firms' performance. This is shown below as thus:

$$\text{Kanwal, Khanam, Nasreen and Hameed (2013): } \text{NAPS} = \beta_0 + \beta_1 \text{ CSR} + \mu \text{ -----1}$$

$$\text{Brockman (2015): } \text{NAPS} = \beta_0 + \beta_1 \text{ ED} + \mu \text{ -----11}$$

Where:

NAPS = Net Assets Per Share  
 CSRD = Corporate Social Responsibility Disclosure  
 ED = Environmental Disclosure

The explicit form of the regression modified for the study is expressed as thus:

$$\text{Model 1: } NAPS_{it} = \beta_0 + \beta_1 CSRD_{it} + \beta_2 ED_{it} + \mu$$

**Decision Rule:** accept  $H_0$  if P-value > 5% significant level otherwise reject  $H_0$

#### 4.0 Results and Discussion

This section presents the results from the analysis of data and its interpretation

**Table 1: Descriptive Statistics**

Variables	Observations	Mean	Standard Deviation	Median	Minimum	Maximum
<i>NAPS</i>	856	.7864740	2.06564	0.0000	2.9767	1.0844
<i>CSRD</i>	856	2.242056	.681014	0.0245	1.8210	4.5022
<i>ED</i>	856	1.770093	1.067373	2.3430	.2341	12.234

**Source:** STATA 15 Computational Results (2020).

The table 4.1 above shows that the mean value of net assets per share (NAPS) among the sampled firms was 0.786. This implies that about 78.6% of the observations had social and environmental disclosure items in their annual reports. The mean value of corporate social responsibility disclosure (CSRD) and environmental disclosure (ED) for the sampled firms' were 2.24 and 1.77 respectively. This implies that firms' with CSRD values of 2.24 moderately disclosed this information in their annual reports while firms with ED values of 1.77 poorly disclosed this information in their annual reports. There is a high variation in maximum and minimum values of CSRD which stood at 4.5022 and 1.8210 respectively; while ED stood at 12.234 and 0.2341 respectively. These wide variations in CSRD and ED values among the sampled firms justify the need for this study as we assume that firms with higher CSRD and ED values are higher profit making firms than those firms with low CGD and ED values.

**Table 2: Collinearity Statistics**

Variable	VIF	1/VIF (TV)
<i>CSRD</i>	1.02	0.980709

<i>ED</i>	1.02	0.980709
<i>Mean Vif</i>	1.02	

Source: STATA 15 Computational Results (2020).

From the table above, the TV ranges from 0.98 to 0.98 which suggests non multi-collinearity feature. The VIF which is simply the reciprocal of TV ranges from 1.02 to 1.02 also indicates non multi-collinearity feature. Multi-collinearity feature according to Sabo, Rabi, Usman, Fatima, and Tjjani (2015) exists when the value of TV is less than 0.20 or where VIF exceeds 10 i.e VIF>10

**Table 3: Breush Pagan/Cook Weisberg Heteroskedasticity Test**

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. estat hettest
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of NAPS

chi2(2) = 46.83
Prob > chi2 = 0.340
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The above result was obtained from the test for heteroskedasticity. The probability value of 0.340 resulting from the test for heteroskedasticity implies that the model is free from the presence of unequal variance. Thus implies that our probability values for drawing inference on the level of significance are reliable and valid. The absence of heteroskedasticity validates the panel regression model results, which means there is no need for robust or weighted least square regression.

#### 4.1 Test of Hypotheses

**Table 4: Panel Regression Result**

<i>Variable</i>	NAPS <b>FIXED EFFECT</b>			NAPS RANDOM EFFECT		
	<i>Co-efficient</i>	<i>T-value</i>	<i>P-value</i>	<i>Co-efficient</i>	<i>Z-value</i>	<i>P-value</i>
<b>CONSTANT</b>	.9784944	3.21	0.000	<b>1.0567236</b>	<b>4.98</b>	<b>0.000</b>
<b>CSR</b>	.0865475	5.06	0.000	<b>0.5656745</b>	<b>7.01</b>	<b>0.000</b>
<b>ED</b>	.4656378	19.78	0.002	<b>0.0045631</b>	<b>4.21</b>	<b>0.000</b>
<b>R-Sq:</b>						
<b>Within</b>	<b>0.8760</b>			<b>0.6895</b>		
<b>Between</b>	<b>0.6934</b>			<b>0.5908</b>		
<b>Overall</b>	<b>0.8912</b>			<b>0.7089</b>		
<b>Prob &gt; F</b>	<b>0.0000</b>			<b>0.0130</b>		

**HAUSMAN TEST** → Prob > Chi2 = 0.0000

Note: \* 5% level of significance

Source: Result output from STATA 15.

In testing for the cause-effect relationship between the dependent and independent variables in the model, the two widely used panel data regression estimation techniques (fixed effect and random effect) were adopted. The table above (table 4) presents the two panel data regression estimation techniques results using fixed effect model and random effect model. The estimation of the fixed effect panel regression was based on the assumption of no correlation between the error term and explanatory variables, while that of the random effect, considers that the error term and explanatory variables are correlated. In selecting from the two panel regression estimation results (fixed effect and random effect) for the model, the Hausman test was conducted and the test is based on the null hypotheses that the random effect model is preferred to fixed effect model.

A look at the p-value of the Hausman test as shown above shows 0.0000. Thus implies that we should reject the null hypothesis and accept the alternative hypothesis that random effect model is not preferred to fixed effect model at 5% level of significance. Based on this, we adopted the fixed effect panel regression results in drawing our conclusion and recommendations. Thus implies that the fixed effect results tend to be more appealing statistically when compared to the random effect. Following the above, the discussion of the fixed effect results became imperative.

The coefficient of determination “R-Square” shows 89.12% for the model which indicates that the variables considered in the model accounts for about 89.12% change in the dependent variable of NAPS. Thus implies that the remaining 10.08% is as a result of other variables not addressed by this model.

The within  $R^2$  of 87.60% which indicate that the model could account for 87.60% variations within the panel units. Thus implies that only 87.60 of intra-individual variability of the endogenous variable (NAPS) is explained by exogenous variables (CSR & ED). Also the between  $R^2$  of 69.34% indicates that the models could account for just 69.34% variations between the separate panel units. Thus reflects that the contribution of the fixed effects in the model is equal to 69.34%.

The sig. (or p-value) for the Model is .0000 which is below the .05 level; hence, we conclude that the overall model is statistically significant, or that the variables have a combined or joint effect on the dependent variable. With this, the researcher affirms the validity of the panel regression model adopted in this study.

#### **4.2: Discussion of Findings.**

In addition to the above, the specific finding from each explanatory variable from fixed effect regression model as shown on table 4. is provided below as follows:

**H<sub>01</sub>:** Corporate Social Responsibility Disclosure has no significant effect on firms’ performance.



This hypothesis was tested and the result of the fixed effect regression model as explicated on table 4.4.1 indicates that the relationship between CSR and NAPS is positive and significant with a P-value (significance) of 0.000 which is less than the 5% level of significance adopted.

Likewise the result of positive coefficient of 0.086 is proving that, an increase in firms' CSR activities increases NAPS by 8.6%. Thus implies that social responsible and social friendly firms make higher profit and also firms that make public known about its responsiveness to the community attract much more investors and restores investors' confidence and when such disclosures are adequately given, it influences firms' performance. We therefore rejected null hypothesis and accepted alternate hypotheses which contends that Corporate Social Responsibility Disclosure has significant impact on firms' performance. The finding is consistent and in agreement with the findings of Wibowo (2015) and Khaveh, Nikhashemi, Yousefi, and Haque (2014) whose studies were carried out in Italy and France respectively. This is also contrary to the findings of Amran and Siti-Nabiha (2017) who study concentrated on Malaysia.

The study of Wibowo (2015) on interaction between Corporate Social Responsibility Disclosure and profitability of Italian Firms found positive correlation between CSR disclosures towards financial performance. The study however concluded that CSR disclosure has improved firms performance. Khaveh et al (2014) on the same note found positive correlation between CSR disclosure towards financial performance. The study however recommended that corporate non financial disclosure should be encouraged and should form skeletal part of corporate reporting for stakeholders' perusal. The agreement with the findings of the study supports stakeholders' theory that social responsible firms and environmental friendly firms perform better

The finding is however in disagreement with the findings of Amran and Siti-Nabiha (2017) in their study on corporate social reporting in Malaysia who found a negative relationship between corporate social reporting and firms' performance. The disagreement was based on the number of observation covered in the study.

**H<sub>02</sub>:** Environmental Disclosure has no significant effect on firms' performance

This hypothesis was tested and the result of the fixed effect regression model as explicated on table 4.4.1 indicates that the relationship between ED and NAPS is positive and significant with a P-value (significance) of 0.002 which is less than the 5% level of significance adopted.

Likewise the result of positive coefficient of 0.465 is proving that environmental friendly firms make higher profit. Thus implies that firms' that comply with environmental laws make higher returns since such firms' have the support of the environment. We therefore rejected null hypothesis and accepted alternate hypotheses which contends that corporate firms' ED has a significant effect on firms' performance

This agrees with the a prior expectation of Adjaoud and Amar (2015) who found that environmental disclosure has significant positive relationship with firms performance. This also agrees with Pratten and Mashat (2014), kowalewski (2014), Gelb (2017), Patten (2012), Brockman

(2015). This agrees with the stakeholders' theory which states that the purpose of every firm is to make profit but the profit could not be attained if the environmental is been neglected.

This is in not in tandem with the priori expectations of Lang (2016), Makori and Jagong (2013) who found insignificant relationship between environmental disclosures and performance. The disagreement was based on the period covered in the study as the present study covered 8 years.

## 5.0 Conclusion

The study having developed a model fit on social and environmental disclosures using (CSR, & ED) captured that CSR and ED have joint effect on firms' performance. Based on this, the study concludes that social and environmental disclosures have significant influence on firms' performance.

## 5.1 Recommendation

1. Since the study shows that higher profitability is associated with social responsible and friendly firms', the study suggests that firms should disclose more of this information in their annual reports in order to legitimize their operations by making public known about her commitment of business to contribute to sustainable economic development, working with employees, their families and the local communities.

2. The study also established a positive association between environmental disclosures and firms performance. Based on this, the study suggests that firms should have positive disposition towards environmental friendly practices and also disclose more of this information in their annual reports on her commitment of business to contribute to sustainable economic development as the level of disclosure of this information has influenced firms' performance over the years.

## 5.2: Contribution to Knowledge

The study adapted and modified the Models of Kanwal, Khanam, Nasreen and Hameed (2013) and Brockman (2015) in order to develop a model fit on social and environmental disclosures based on GRI so as to capture the joint effect of these variables (CSR and ED) on firms performance which calls for further investigation in both developed and developing nations. This was based on the fact that it was unclear whether performance causes social and environmental activities or whether social and environmental activities cause performance in both developed and developing nations which calls for further investigation and clarifications.

The adapted models are shown below as thus:

Kanwal, Khanam, Nasreen and Hameed (2013):  $NAPS = \beta_0 + \beta_1 CSR + \mu$  -----1

Brockman (2015):  $NAPS = \beta_0 + \beta_1 ED + \mu$  -----11

The explicit form of the regression modified for this study is expressed as thus:

$$\text{Model 1: NAPS}_{it} = \beta_0 + \beta_1 \text{CSR}_{it} + \beta_2 \text{ED}_{it} + \mu$$

The study contributed to knowledge by revealing that:

$$\text{NAPS}_{it} = \beta_0 + \beta_1 \text{CSR}_{it} (0.086\{0.000\}) + \beta_2 \text{ED}_{it} (0.465\{0.002\}) + \mu$$

By this implication, the study asserts that the overall model is statistically significant. The variables (CSR and ED) have significant effect on the dependent variable (NAPS).

Furthermore, the previous studies in the developing nations also emphasized majorly on 4 sectors (industrial, financial service, oil and gas and consumer goods). The present study however extended it to 10 sectors of NSE (all quoted non-financial firms)

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