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Corporate Characteristics and Corporate Social and Environmental Disclosures Quantity in Nigeria

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Abstract

The paper examines the impact of corporate characteristics on corporate social and environmental disclosures in Nigeria. It tests whether there were any association between the quantity of social and environmental disclosure and a number of company characteristics used in previous studies by utilizing the annual reports of 174 listed companies in the Nigerian Stuck Exchange. The disclosures index and content analysis method were adopted for the study to gather data for the CSED quantity measures which include: CSED page, number of sentences, proportion of CSED page to total page of annual reports and disclosure index. Using the OLS regression analysis, the results suggest that there are statistically significant association between five variables (profitability, leverage, reputation, research and development and diversification) and the corporate social and environmental disclosures quantity in Nigeria. Specifically corporate reputation was found to be associated with all the measures of CSED quantity. The outcomes of the study support the legitimacy theory.

Keywords: corporate social and environmental disclosures, quantity, company's characteristics.

I. INTRODUCTION

From the literature, using mainly the annual reports of companies, various corporate characteristics have been found to determine social and environmental disclosures (Lavers, 1993; Gray et al., 1995; Uwalomwa, 2011). However, there are few studies which have attempted to study the association between corporate characteristics and corporate social disclosures (CSD) in Nigeria. A research gap exists as most of these studies have used very small sample size or industrial sectors in the Nigerian Stock Exchange, few corporate variables and mainly disclosures index (Owolabi, 2008; Uwalomwa, 2011; Kwambo, 2011; Uwalomwa & Uadiale, 2011; Uwalomwa & Ben-Caleb, 2012; Odia, 2013). Therefore, the objective of this paper is to extend the previous studies by considering the association between corporate characteristics such as diversification, research and development, capital intensity and various measures of corporate social and environmental disclosures (CSED) quantity in Nigeria. The structure of this paper is organized as follows: section 2 examines the theoretical framework, reviews prior literature on the determinants of CSED and develops the hypotheses for the study. Section 3 specifies the methodology and model specifications. Section 4 is the data analysis and the discussion of regression result while section 5 concludes the paper.

II. THEORETICAL FRAMEWORK

The legitimacy theory has been used in various degrees as the underpinning for the determinants of corporate social and environmental disclosures. Basically, legitimacy theory posits that firms disclose information on social and environmental issues to

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legitimize their behaviour, influence stakeholders and society's perception about them and to continue operations in the market. Companies tend to use CSED to respond, alleviate and correct negative media, social (stakeholders, NGOs, professional organizations) and public policy pressures regarding their corporate social responsibilities (Pattern, 1991 & 1992; Lindblom, 1994; Suchmach, 1995; Hooghiemstra, 2000; Newton & Deegan, 2002; Aerts & Cormier, 2006; Hassan, 2010). Legitimacy is defined as a "generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definition" (Suchman, 1995, p. 574).

2.1. Literature Review and Hypotheses Development

Researches on voluntary disclosure have attempted to examine the nature and patterns of CSR and investigate the determinants of CSED such as size, profitability, industry affiliation, leverage (Pattern, 1991 & 1992; Roberts, 1992; Hackston & Milne, 1996; Pava & Krausz, 1996; Adams, 1999; Cormier & Gordon, 2001). The determinants of corporate social and environmental disclosures considered include:

2.1.1. Corporate Size

Most empirical results seem to provide evidence of a significantly positive impact of corporate size on CSED (Patten, 1991 & 1992; Hackston & Milne, 1996; Al-Tuwaijri et al., 2004; Branco & Rodrigues, 2008; Uwalomwa, 2011; Setyorini & Ishak, 2012; Suttipun & Stanton, 2012). But Cowen et al. (1987) find that the relationship holds only for certain areas of disclosures. Therefore, we hypothesize that:

H_1: The extent of corporate social and environmental disclosures is positively associated with company's size.

2.1.2. Profitability

The empirical results appear to provide inconclusive evidence about the impact of profitability on CSED. The studies on the relationship between CSED and profitability have produced inconsistent and mixed results. Some studies find no relation (Brammer & Pavelin, 2006), a positive relationship with CSED (Gray, et al., 2001, pp. 330-331; Uwalomwa, 2011) or inverse relationship (Pattern, 1991; Hackston & Milne, 1996; Ghazali, 2007; Reverte, 2009). Akerlof (1970) concludes profitable firms are more likely to disclose more information in order to screen themselves from less profitable firms. Hence,

H_2: The extent of corporate social and environmental disclosures is positively associated with profitability.

2.1.3. Industry Type

The empirical results provide evidence that industry type is positively associated with CSED. But the relationship between CSED and industry membership has produced less than consistent results. Dierkes & Preston (1977) hypothesize that the environmental disclosures of companies involved in environmentally sensitive industries are higher. While Hackston & Milne (1996) find strong relationship, Ness & Mirza (1991) document that this relation holds specifically for the oil industry. Membership in environment-sensitive industries discloses more CSED (Cowen et al., 1987; Patten, 1991 & 1992; Roberts, 1992; Neu et al., 1998; Cormier & Gordon, 2001). Again, large and visible public environmentally sensitive companies are found to disclose more CSED and large, visible firms also disclosure more voluntary CSED (Deegan & Gordon, 1996; Cormie & Gordon, 2001; Liu & Anbumozhi, 2009). Thus H_3 as follows:

H_3: The extent of corporate social and environmental disclosures is positively associated with the industry type.

2.1.4. Leverage

Belkaoui & Karpik (1989) find a negative association between leverage and social disclosure. Roberts (1992) finds leverage has no association with social disclosures. While a positive relationship between corporate social and environmental disclosure and leverage was found by Jensen & Meckling (1976), Ahmed & Courtis (1999), Naser et al. (2006), Michelon (2007), and Orij (2007); a negative relationship is reported by Cormier & Magnan (2003), Hagerman & Zmijewski (1979) and Uwalomwa & Ben-Caleb (2012). Hence,

H_4: The extent of corporate social and environmental disclosures is positively associated with leverage.

2.1.5. Research and Development

Research and development (R & D) has been found to be important in other aspects of corporate social and environmental responsibility (McWilliams & Siegel, 2000). McWilliams et al. (2000) suggests that R & D and corporate social performance are positively correlated since many aspects of corporate social responsibility create either a product innovation, process innovation or both. Basically, companies want to disclose to stakeholders their investment in R & D through the CSED. Thus H_5 as follows:

H_5: The extent of corporate social and environmental disclosures is positively associated with research and development.

2.1.6. Diversification

The greater the range of the company's activities, the greater these activities must be explained or disclosed by a company in order to develop and protect environmental reputation. Hence as a company diversifies with the likelihood of numerous stakeholders, it is bound to make more disclosures. Again, if diversification threatens to damage reputation, increased accounting disclosures may be required to mitigate the potential impact on reputation (Hasseldine et al., 2005). Hence,

H_6: The extent of corporate social and environmental disclosures is positively associated with company's diversification.

2.1.7. Capital Intensity

Capital intensity has been found to be significantly associated with environmental disclosures (Aerts & Cormier, 2009; Clarkson et al., 2008). Thus H_7 as follows:

H_7: The extent of corporate social and environmental disclosures is positively associated with capital intensity.

2.1.8. Corporate Reputation

Various authors claim that social and environmental disclosures are signals companies give to stakeholders in order to increase reputation (Friedman & Miles, 2001; Toms, 2002; Hasseldine et al., 2005). Also, it is argued that company's reputation could influence the CSED (Friedman & Miles, 2001). Michelon (2007) examines the relationship between corporate reputation and CSED of 57 companies in the Dow Jones Sustainability Index (DJSI) as at 31st December, 2003. He argues that corporate reputation can be considered either as a determinant or the result of CSED. Ullmann (1985) and Bebbington et al. (2008) found that corporate reputation is a driver of CSED. Thus H_8 as follows:

H_8: The extent of corporate social and environmental disclosures is positively associated with corporate reputation.

2.1.9. Company's Age

Cooke & Haniffa (2000) find the age of listed company affects its voluntary disclosures. Similarly, Robert (1992) finds a positive association between age and social disclosure. Thus H_9 as follows:

H_9: The extent of corporate social and environmental disclosures is positively associated with company's age.

III. METHODOLOGY

The population includes all the companies listed in the first tier market of the Nigerian Stock exchange (NSE) in 2007 and 2008 respectively. However, the sample consists of 174 companies in fourteen industrial sectors, that is 91 and 83 companies which presented their annual reports for 2007 and 2008 respectively (Table 1).

Table 1
Sample Companies Based on Industrial Sectors

	Sectors	Sample Companies 2007	Percentage of Total Companies (%)	Sample Companies 2008	Percentage of Total Companies (%)
1	Agriculture	5	5.5	4	4.8
2	Automobile	3	3.3	1	1.2
3	Banking	16	17.6	14	16.9
4	Breweries	2	2.2	2	2.4
5	Building & Materials	6	6.6	5	6.0
6	Chemical & Plant	7	7.7	5	6.0
7	Conglomerates	7	7.7	6	7.2
8	Computer & Equipment	3	3.3	2	2.4
9	Construction	4	4.4	5	6.0
10	Food/Beverage & Tobacco	10	11	10	12.1
11	Health Care	6	6.6	7	8.4
12	Insurance	14	15.4	14	16.9
13	Petroleum (Marketing)	7	7.7	7	8.4
14	Textiles	1	1	1	1.2
	Total	**91**	**100%**	**83**	**100%**

Source: Researcher's compilation (2012)

3.1. Models Specifications

Based on prior studies such Naser et al. (2006) and Hassan (2010), the models adapted to examine the association between the dimensions of CSED and company characteristics are:

CSED qty= f(AGE, SIZE, PROF, LEV, IND, DV, CAPIN, R&D, CREP) 1

To investigate the combined impact of size, industry and leverage on CSED suggested by Hasseldine et al. (2005) , the model is specified as:

CSED qty= f(LEV*SIZE,INDF*SIZE,INDMFG*SIZE,INDSEN*SIZE,INDF*SIZE, INDF*LEV,INDMFG*LEV, INDSEN*LEV) 2

In econometric forms, the equations for the models become:

$$CSED\ qty = \beta_0+\beta_1 AGE+\beta_2 SIZE+\beta_3 PROF+\beta_4 LEV+\beta_5 IND+\beta_6 DV+\beta_7 CAPIN+\beta_8 R\&D+\beta_9 CAPIN+\beta_{10} CREP \quad \ldots\ldots 3$$

$$CSED\ qty = \beta_0+\beta_1 LEV*SIZE+\beta_2 INDF*SIZE+\beta_3 INDMFG*SIZE+\beta_4 INDSEN*SIZE+\beta_5 INDF*SIZE+\beta_6 INDMFG*LEV+\beta_7 INDSEN*LEV \quad \ldots\ldots 4$$

The operationalization of the dependent and independent variables is shown in Table 2.

Table 2
Measurement of Company Characteristic Variables

S/ no	Independent Dependent Variables	Proxy(ies)	Code	Expected Signs
1	Company Size	Logarithms of total assets, number of employees	SIZE, EMPLOY	+
2	Profitability	Returns on Equity (ROE)	PROF	-
3	Leverage	Total liabilities to total equity	LEV	+
4	Diversification	1 if company operates in more than one sector or 0 otherwise	DV	+/-
5	Industry	1 if company is financial (Banking, Insurance, Mortgage) or 0 otherwise	INDF	-
		1 if manufacturing company or 0 otherwise	INDMFG	+
		1 if company belongs to environmentally sensitive industries or 0 otherwise	INDSEN	+
6	Capital Intensity	Proportion of total assets to total revenues	CAPIN	+
7	Research & Development	Proportion of R & D to total assets	R & D	+
8	Corporate Reputation	Awards during the year such as: environmental awards, product quality	CREP	+
9	Company Age	Years since company was incorporated & listed on the Nigerian Stock Exchange to December 2007 & 2008	AGE_f , AGE_l	-
10	Corporate Social & Environmental Disclosure	Total disclosure score for social and environmental disclosures for quantity such as: CSED page, number of CSED sentence, proportion of CSED page to total page and disclosure index score.	CSEDp, CSEDsen, CSEDpp and DISCindx	

Source: Researcher's design (2012)

The measurement instrument employed for corporate social and environmental disclosures is derived from Hassan (2010) and Global Reporting Index (GRI) of 2006. The content analysis contains 8 dimensions and 75 categories identified in the annual reports. The environmental dimensions are environment and energy and 21 categories. The social disclosure is subdivided into 6 dimensions and 54 categories. The social dimensions include: employees, products, community development, customers, value added statement and others. To ensure the validity of the measurement instrument, the disclosure checklist was reviewed by the researcher's supervisors and two other academic colleagues. The construct validity was assessed by regressing firm size with CSED to see if the result agrees with prior studies. Size was found to have positive and significant relationship with CSED as most studies. The Cronbach's alpha reliability for the disclosure index for 2007 and 2008 were 0.638 and 0.746 respectively.

The quantity of corporate social and environmental disclosures (CSEDqty) was captured using four indices such as: CSED page, number of CSED sentences, proportion of total CSED pages to total pages of the annual report and total disclosure index score. The number of CSED page was measured using A4 paper divided into 315 squares spread over the CSED page and the squares in the occupied counted. The CSED page was

obtained by dividing the total squares by 315. The scoring was 1 for items disclose and 0 for any item not disclose. The essence of the various measurements of CSED was to ascertain whether there were different results for each of the CSED variables. The variance inflation factor (VIF) was used to detect threats of multi-collinearity in the regression equations. Multi-collinearity did not constitute a problem as the VIF was less than 10 (Naser et al., 2006). The ordinary least square (OLS) was used to test the association between the CSED and the company characteristic variables.

IV. DATA ANALYSIS AND DISCUSSION OF REGRESSION RESULTS

The descriptive statistics for 2007 and 2008 is shown in Tables 3 and 4 below.

Table 3
Descriptive Statistics for 2007

2007	Min	Max	Mean	Std. Dev	Skewness	Kurtosis	K-S
AGE_f	8	84	39.83	15.033	0.096	0.025	0.670
AGE_l	1	42	21.80	11.224	-0.327	-0.903	2.159**
INDF	0	1	0.36	0.483	0.585	-1.694	3.988**
INDMFG	0	1	0.56	0.499	-0.262	-1.974	3.616**
INDSEN	0	1	0.56	0.480	0.634	-1.633	4.040**
LOGTA	6.598	10.117	10.117	1.059	0.072	0.703	4.138**
EMPLOY	32	17308	1483	2509.113	3.527	17.383	2.685**
PROF	-2.026	3.647	0.209	0.519	2.914	25.010	0.697
LEV	-23.542	35.11	2.339	6.262	0.899	11.664	4.839**
DONAT	50	571,910	60,616.54	121753.86	2.767	7.711	2.248**
CAPIN	0.00	25.83	31.658	267.485	9.639	92.934	2.385**
R & D	-0.356	108.145	1.221	11.208	9.643	92.986	4.938**
DV	0	1	0.38	0.489	0.489	-1.799	3.882**
CSEDp	0.23	9.8	1.944	1.918	1.918	3.012	1.855**
CSEDindx	11	46	20.89	6.351	1.110	1.901	1.207
CSEDsen	3	130	31.85	25.993	1.753	3.002	1.883**
CSEDpp	0.019	0.195	0.062	0.216	8.702	77.035	1.379*

FREQUENCY	**INDF**	**INDMFG**	**INDSEN**	**DV**
0	61 (67%)	41 (45%)	61 (67%)	56 (62%)
1	30 (33%)	50 (55%)	30 (33%)	35 (38%)
TOTAL	**91 (100%)**	**91 (100%)**	**91 (100%)**	**91 (100%)**

Source: Researcher's computation (2012)

Insert Table 4 here.

In Tables 3 and 4, the financial companies were 34 and 28 companies in 2007 and 2008 respectively while the non-financial companies were 60 and 53 in 2007 and 2008 respectively. Besides, the manufacturing companies were 53 and 43 companies in 2007 and 2008 while the non-manufacturing companies were 40 and 27 companies in 2007 and 2008 respectively. The environmentally sensitive companies were 31 and 29 companies in 2007 and 2008 respectively while the non-environmentally sensitive companies were 60 and 54 companies in 2007 and 2008 respectively. Similarly, about 36 companies diversified into more than one sectors in 2007 compared to 28 companies in 2008. The average age of companies from the date of incorporation and listing in the Nigerian Stock Exchange (NSE) was 39.73 years and 21.80 years in 2007 but increase slightly to 41.07 years and 22.45 years in 2008. That shows that majority of the companies are in their middle age and they have been listed in the NSE for over two decades.

Table 4
Descriptive Statistics for 2008

2008	Min	Max	Mean	Std Devi	Skewness	Kurtosis	K-S
AGE_f	12	85	41.07	15.330	0.104	-0.071	0.596
AGE_l	0	43	22.45	11.542	-0.495	-1.029	2.283**
INDF	0	1	0.35	0.479	0.661	-1.603	3.774**
INDMFG	0	1	0.53	0.502	-0.126	-2.035	3.202**
INDSEN	0	1	0.33	0.474	0.721	-1.519	3.830**
LOGTA	8.354	12.944	10.223	1.002	0.606	-1.68	1.138
EMPLOY	12	17,575	1,797	3083.377	3.014	10.759	2.532**
PROF	-1.733	1.072	0.121	0.370	-1.814	9.900	2.357**
LEV	-9.045	41.520	2.750	5.653	4.382	28.607	2.486**
DONAT	58	1,661,963	99,592.32	261204.9	4720	25.899	2.535**
CAPIN	0.000	44.312	3.607	5.834	4.613	29.328	2.422**
R & D	0.000	0.347	0.064	0.071	1.625	2.584	1.627
DV	0	1	0.350	0.479	0.661	-1.603	3.774**
CSEDp	0.11	12	2.01	2.118	2.419	6.731	2.209*
CSEDindx	5	49	24.13	8.896	0.484	0.011	0.914
CSEDsen	1	188	40.47	35.863	2.086	4.767	1.688**
CSEDpp	0.001	0.169	0.037	0.029	2.030	5.509	1.516*

FREQUENCY	**INDF**	**INDMFG**	**INDSEN**	**DV**
0	55 (66%)	40 (48%)	54 (65%)	55 (66%)
1	28 (34%)	43 (52%)	29 (35%)	28 (34%)
TOTAL	**83 (100%)**	**83 (100%)**	**83 (100%)**	**83 (100%)**

Source: Researcher's computation (2012)

The corporate size was measured by two indicators: the logarithms of total assets and the number of employees. The average number of employee was 1,483 and 1,797 in 2007 and 2008 respectively meaning the companies are relatively large companies. The average logarithm of total assets was 10.117 and 12.944 in 2007 and 2008 respectively. The profitability was measured using the return on equity whose average decreases from 20.2% in 2007 to 12.2% in 2008. Moreover, the increase in the average leverage from 2.339 in 2007 to 2.750 by 2008 reveals slight increase in the gearing or external control. Again the average expenditure on research and development (R & D) fell from about 11.02% of sales in 2007 to less than 1% in 2008. The capital intensity-capital expenditure fell from about 31.65% of the total asset in 2007 to 3.60% in 2008. The average donation increased from 60.616.54 in 2007 to 99,592.32 in 2008 indicating increased corporate awareness on philanthropic corporate social responsibility.

The number of CSEDp was between 0.23 and 9.8 pages in 2007 to between 0.11 and 12 pages in 2008 and there were some increase in mean page of 12.8 % from about 1.944 pages in 2007 to 2.01 pages in 2008. This means CSEDp tend to be lower than the over 0.39 pages (Pattern, 1991) in US companies and 0.75 pages in New Zealand (Hackston & Milne, 1996). The CSEDindx scores were between 11 and 46 scores in 2007 to 5 and 49scores in 2008. The average CSEDindx score of 20.89 in 2007 and 24.13 in 2008 shows that the CSED is still low and below average in Nigeria. This result is consistent with the report of 35% environmental disclosures rate by Owolabi (2008) and low corporate social disclosures by Nigerian listed companies found by Enahoro (2009), Uwaloma (2011) and Uwaloma & Uadiale (2011). The CSED sentence (CSEDsen) was between 3 and 130 sentences in 2007 and between 1 and 188 sentences in 2008. The average CSEDsen was 31.85 sentences in 2007 and 40.47 sentences in 2008 representing an increase of about 27% which may indicate an increased interest in CSED.

4.1. Correlation Analysis

The correlation analysis which shows the relationship between the corporate characteristics variables and the various CSED variables is depicted in Table 5.

Table 5
Correlation Results of Company's Characteristics and CSED

	CSEDp		CSEDindx		CSEDsen		CSEDpp	
	2007	**2008**	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**
AGE_f	0.04	0.227**	0.076	0.155	0.080	-0.018	0.111	0.388**
AGE_l	-0.028	0.192	0.181	0.278*	-0.027	0.030	0.045	0.291*
INDF	0.011	-0.060	-0.070	-0.160	0.060	0.078	-0.241	-0.314**
INDMFG	-0.042	-0.030	0.077	0.162	-0.028	-0.139	0.225	-0.222
INDSEN	0.093	0.004	0.248*	-0.052	0.074	0.010	0.262	0.165
DV	0.215	0.054	0.089	0.044	0.221	0.177	0.013	-0.134
DONAT	0.410**	0.348*	0.057	0.216	0.461**	0.596**	0.254**	0.234
EMPLOY	0.328**	0.499**	0.196	0.455**	0.297**	0.565**	0.185**	0.321
LEV	0.303**	0.076	0.223*	0.030	0.296**	0.097	0.101**	-0.017
CAPIN	-0.057	0.097	-0.106	0.017	-0.048	0.051	-0.050	0.089
PROF	-0.028	0.153	-0.011	0.205	0.047	0.116	-0.055	-0.184
LOGTA	0.287**	0.267**	0.257*	0.260*	0.415**	0.299*	0.063	0.025
R & D	0.233**	0.118	0.183	0.220	0.106	0.108	0.133	0.207
CREP	0.348**	0.509	0.409**	0.323**	0.471**	0.600**	0.177	0.373**

+ Significant at the 10% ; *: significant at the 5% ; **: significant at the 1%
Source: Researcher's computation (2012)

In Table 5, the result seems to be consistent in both years as it shows that the corporate characteristics of donation, size measures of employees and total assets are correlated with CSEDp. Moreover, LOGTA and CREP are correlated with CSEDindx and CSEDsen in both years; the company age since formation and listing are correlated only with CSEDp and CSEDindx in 2008 respectively. With regard to industry type, financial industries are correlated only with CSEDpp while the environmentally sensitive industries are correlated with CSEDindx. Corporate reputation has significant correlated with CSED quantity of CSEDindx and CSEDsen in both years. The manufacturing industry group, diversification, capital intensity and profitability are not correlated with all CSED quantity. The result for corporate size and profitability is consistent with Hackston & Milne (1996) who using three measures of corporate size find a significant correlation with CSED but the various measures of profitability were not correlated with CSED. For previous done in Nigeria, our result agrees in part with Uwalomwa (2011) who finds a significant correlation between size measured by the logarithms of total assets with the corporate social disclosures but it is inconsistent with the significant correlation found for profitability measured by ROA and CSED. Also, the result is consistent with Kwambo (2011) who finds that social disclosure is significantly correlated with size measured by the number of employees in 20 listed companies in the Nigerian Stock Exchange from 2005 to 2009.

4.2. Cross-Sectional Regression Analysis of The Determinants of CSED

In order to examine the impact of the company's characteristics on CSED quantity, regression analysis is conducted using the cross-sectional data for 2007 and 2008. The OLS results for the cross sectional data in Table 6 show some consistent results in both years. For instance, age of listing (AGE_l) is not associated with the quantity of CSED in 2007 and 2008. Corporate reputation is significantly associated with all quantity of CSED in both years except the CSED indx in 2008. SIZE (LOGTA) is significantly associated with CSED indx in both years. Again, environmentally sensitive industry (INDSEN) is positively and

significantly associated with the CSEDindx in both years and but associate only with CSEDpp in 2007. R & D is positive associated with CSEDp in both years, and only with CSEDindx and CSEDpp in 2008 only. However, there are inconsistent results for the other variables in both years. The financial (INDF) and manufacturing (INDMFG) industry groups are negatively and significantly associated with CSEDindx and CSEDsen in 2008 only. EMPLOY is associated with all CSED quantity indices in 2008 but only with CSEDp in 2007. DV has negative association with CSEDpp only in 2008. CAPIN is not associated with any of the CSED quantity in both years. PROF is found to be negatively with CSEDindx in 2007 and positively associated with CSEDpp in 2008. LEV is negatively and significantly associated with CSEDindx in 2007 but there is no significant association between LEV and all the CSED in 2008.

Table 6
Cross Sectional Regression Results of Corporate Characteristics and CSED

	2007				2008			
	CSEDp	**CSED-indx**	**CSED-sen**	***CSEDpp***	**CSEDp**	**CSED-indx**	**CSED-sen**	***CSEDpp***
Constant t	-0.322	-12.507	-24.465	-0.011	3.992	4.452	90.018+	0.094
	(-0.155)	(-1.302)	(-0.890)	(-0.320)	(1.611)	(0.345)	(1.809)	(2.166)
AGE_l	-0.007	0.198	-0.250	0.000	-0.017	-0.156	-0.546	0.000
	(-0.272)	(1.613)	(-0.713)	(-0.621)	(-0.733)	(-1.303)	(-1.168)	(0.552)
INDF	0.249	3.759	-0.744	-0.003	-1.657	-14.136 *	-38.020+	-0.019
	(0.234)	(0.776)	(-0.054)	(-0.161)	(-1.598)	(-2.620)	(-1.815)	(-1.077)
INDMFG	-0.152	2.898	5.317	0.007	-1.171	-10.539*	-30.135+	-0.018
	(-0.179)	(0.737)	(0.472)	(0.515)	(-1.394)	(-2.410)	(-1.769)	(-1.214)
INDSEN	0.642	6.324*	6.553	0.015+	-0.445	4.690+	-2.986	-0.003
	(1.167)	(2.481)	(0.899)	(1.671)	(-0.969)	(1.964)	(-0.313)	(-1.413)
DV	0.266	1.420	2.095	0.000	-0.458	-2.103	-5.399	-0.014+
	(0.589)	(0.678)	(0.350)	(0.045)	(-1.067)	(-0.941)	(-0.614)	(-1.986)
EMPLOY	0.000+	0.000	0.002	1.8801E	0.000**	0.001**	0.005**	3.965E**
	(1.653)	(0.416)	(1.373)	(1.226)	(5.321)	(4.700)	(4.147)	(3.870)
LEV	-0.034	-0.491*	-0.195	-0.001	-0.013	-103	0.071	-4.252E
	(-0.699)	(-2.203)	(-0.306)	(-1.294)	(-0.255)	(-0.391)	(0.070)	(-0.082)
CAPIN	0.000	-0.002	-0.007	-8.995E	0.000	0.003	-0.004	1.110E
	(0.124)	(-0.521)	(-0.603)	(-0.627)	(-0.421)	(1.127)	(-0.404)	(0.121)
PROF	-0.272	-4.225+	0.385	-0.008	0.413	2.821	6.681	0.015 *
	(-0.496)	(-1.668)	(0.053)	(-0.881)	(0.905)	(1.188)	(0.725)	(2.026)
LOGTA	0.074	2.100**	3.447	0.003	-0.050	2.800*	-1.507	-0.005
	(0.451)	(2.754)	(1.580)	(1.168)	(-0.218)	(2.366)	(-0.328)	(-1.168)
R & D	4.080+	9.170	-34.505	0.020	5.778*	30.040*	48.538	0.083*
	(1.666)	(0.809)	(-1.064)	(0.480)	(2.235)	(2.233)	(0.917)	(1.999)
CREP	1.453 **	7.339**	26.076 **	0.016*	1.118*	1.762	34.804 **	0.015+
	(3.201)	(3.493)	(4.337)	(2.126)	(2.438)	(0.738)	(3.502)	(1.950)
R	0.545	0.631	0.609	0.461	0.782	0.749	0.778	0.658
R^2	0.297	0.399	0.371	0.212	0.612	0.562	0.605	0.432
R^{-2}	0.168	0.289	0.256	0.068	0.515	0.452	0.502	0.303
F	2.307*	3.622**	3.218**	1.473	6.315**	5.127**	5.881**	3.340**
p-value	0.013	0.000	0.001	0.148	0.000	0.000	0.000	0.001
DW	2.469	2.005	2.122	2.187	1.855	2.268	2.235	1.623

Source: Researcher's computation (2012)

4.3. Regression Result of The Panel Data

The panel data takes account of the time effect of the data. It shows the overall impact of corporate characteristics on the various measures of CSED quantity.

Table 7
OLS Regression Result of Corporate Characteristics and CSED Quantity (Panel Data)

	CSEDp	*p*	CSEDindx	*p*	CSEDsen	*p*	*CSEDpp*	*p*
Constant t	11.953**	0.000	4.547	0.802	84.863	0.137	0.245**	0.001
AGE_l	0.004	0.841	0.106	0.357	-0.228	0.525	0.000	0.736
INDF	0.678	0.441	9.342+	0.085	4.345	0.791	0.007	0.700
INDMFG	0.123	0.859	8.812*	0.044	-4.029	0.747	0.016	0.288
INDSEN	0.166+	0.072	5.033*	0.050	2.536	0.753	-0.001*	0.020
DV	0.864*	0.045	-4.304+	0.066	-12.254	0.105	-0.017+	0.064
EMPLOY	0.000**	0.000	0.001**	0.004	0.003**	0.003	3.016**	0.012
LEV	0.134**	0.000	0.050	0.806	0.960	0.146	0.001	0.375
CAPIN	0.001	0.536	0.000	0.947	0.012	0.471	-5.8E-006	0.768
PROF	1.091+	0.081	6.255+	0.083	6.224	0.579	0.022	0.104
LOGTA	-0.606**	0.000	0.355	0.641	-2.398	0.340	-0.011**	0.000
R & D	2.720	0.254	-1.952	0.890	59.663	0.247	0.003	0.944
CREP	2.018**	0.000	7.689**	0.002	39.466**	0.000	0.026**	0.004
R	0.795		0.717		0.780		0.699	
R^2	0.632		0.514		0.608		0.488	
R^{-2}	0.553		0.389		0.508		0.345	
F	8.008**	0.000	4.135**	0.000	3.417**	0.001	3.417**	0.001
DW	1.961		1.804		2.005		2.005	

+ significant at the 10%; *: significant at the 5%; **: significant at the 1%
Source: Researcher's computation (2012)

In Table 7, the results on regressing the corporate characteristics on CSED show that AGE_l, CAPIN and R & D are not significantly associated with all the variables of CSED quantity. Considering the industry type, INDF and INDMFG are significantly associated with the CSEDindx. But the INDSEN are significantly associated with CSEDindx and CSEDpp only. DV is significantly associated with all CSED quantity except CSEDsen. DV has positive association with CSEDp, but it has a significantly negative impact on CSEDindx and CSEDpp respectively. LEV is significantly associated with CSEDp only. PROF has positive and significant impact on the CSEDp and CSEDindx only; it is not associated with CSEDsen and CSEDpp. SIZE has negative impact on the CSEDp and CSEDpp. Only EMPLOY and CREP have positive and significant impact on all CSED quantity. Moreover, CREP has a greater impact on CSED quantity than EMPLOY.

4.4. Discussion of Panel data Regression Results

With regard to corporate size which is proxy by the number of employees, the result of a significant positive association found in our result is consistent with most of the previous studies which found a positive and significant relationship between size and the quantity of corporate social disclosures (Gray et al., 1995; Deegan & Gordon, 1996; Brammer & Pavelin, 2004; Brammer & Pavelin, 2006; Toms et al., 2007; Toms, 2008; Parsa & Kouhy, 2008, Uwaloma, 2011). Also, the result supports the legitimacy theory that large industrial companies are more visible and consequently they face more social pressures; therefore they are more likely to provide a greater quantity of social responsibility information. However, the result is inconsistent with Kwambo (2011) insignificant and positive association between the number of employees and CSED. Thus hypothesis 1 of a positive association between corporate size and CSED is accepted.

The result of profitability on CSEDsen and CSEDpp agrees with prior studies such as Cowen et al. (1987), Pattern (1991), Reverte (2009) that profitability is not associated

with the quantity of CSED. The non-association between PROF and quantity of CSED is consistent with previous studies and supports legitimacy theory that CSED is a legitimacy tool without direct financial benefits to companies. Hence, hypothesis 2 of a positive association between profitability and CSED quantity is rejected. Nevertheless, the positive and significant impact of profitability on CSEDp and CSEDindx support hypothesis 2 and it is consistent with the significant result found by Hackston & Milne (1996) and Hossain et al. (2006) but inconsistent with Brammer & Pavelin (2006 & 2008) and Uwaloma (2011) which indicates no association between profitability and CSED.

The significant result of industry type for companies in environmentally sensitive industry indicates that they will engage in CSED to ward off pressures from media, civil society and the public on its activities is consistent with Pattern (1991), Robert (1992), Hackston & Milne (1996), Brammer & Pavelin (2004) and Ghazoli (2007) which find that industry membership is significantly associated with CSED, thereby hypothesis 3 is accepted. The positive and statistically significance of LEV on CSED page supports the agency cost argument that companies with higher debt finance will disclose more information. The result is also consistent with Jensen & Meckling (1976), Ahmed & Courtis (1999), Naser et al. (2006), Michelon (2007) but inconsistent with the findings of Robert (1992), Haniffa & Cooke (2005) and Liu & Anbumozhi (2008) who find no association and Belkaoui & Karpik (1989) negative association between leverage and CSED respectively. Thus hypothesis 4 of a positive and significant association is accepted.

Again the result of the statistically insignificance of R & D shows that it has no impact on the CSED quantity. Therefore hypothesis 5 is rejected. This result differs from the positive correlation of McWilliams et al. (2000). DV is positively associated with CSEDp but negatively associated with CSEDindx and CSEDpp. The statistical insignificant of CAPIN is inconsistent with Reitenga (2000), Clarkson, et al. (2008), Aerts & Cormier (2009), Cho et al. (2010) who find significant association between CAPIN and environmental disclosures as well as total disclosures indicating that companies which invest heavily in new assets will show it by way of discretionary disclosures. Hence, hypothesis 7 is rejected. The result for corporate reputation which indicates a positive and significant relationship with all CSED quantity agrees with prior studies such as Ullmann (1985), Friedman & Miles (2001), Michelon (2007) and Bebbington et al. (2008) that corporate reputation is a driver of CSED. Therefore hypothesis 8 of positive association between corporate reputation and CSED quantity is accepted.

The non-association of age of listed company with CSED is inconsistent with previous studies like Robert (1992), Choi (1999) and Haniffa & Cooke (2002) which find a positive association between age and CSED and Meek et al. (1995) which find that companies listed on the main market are more sensitive to the need to raise capital and therefore are more likely to respond to the pressures of investment analysts for voluntary disclosures.But our result agrees with Michelon (2007), Hossain & Reaz (2007) and Parsa & Kouhy (2008) which finds an insignificant association between CSED and age. Therefore, hypothesis 9 of positive association between company age and CSED is rejected.

4.5. Combined Effect of Size, Industry and Leverage on CSED

The OLS regression is performed to examine the effect of size, industry and leverage on CSED and the result is presented in Table 8. In terms of the effects of leverage and size on the CSED, the panel data result shows that there is significant positive association between LEV*SIZE and CSEDp as expected, indicating that companies which are large and highly leveraged will disclose more quantity of social and environmental information. However, LEV*SIZE is not associated with other variables of CSED quantity.

Table 8
Panel Data Regression Result on The Combined Effects of Firm Size, Leverage and Industry Group on CSED

	A Priori Expectation	CSEDp	CSEDindx	CSEDsen	*CSEDpp*
Constant t-value		1.744	5.282	9.801	0.023
		(1.837)	(0.803)	(0.595)	(1.293)
LEV*SIZE	+	0.022**	0.016	0.146	4.130E
		(2.796)	(0.288)	(1.046)	(0.280)
INF*SIZE	+	0.022	1.499**	2.141+	0.001
		(0.377)	(3.633)	(2.073)	(1.049)
INDF*LEV	+	-0.066	-0.151	-0.016	-0.001
		(-0.719)	(-0.236)	(-0.010)	(-0.620)
INDMFG*SIZE	+	0.049	1.325**	1.754+	0.002+
		(0.980)	(3.794)	(2.006)	(1.898)
INDMFG*LEV	+	-0.004	0.367	-0.053	0.000
		(-0.038)	(0.512)	(-0.030)	(0.128)
INDSEN*SIZE	+	0.031	0.901*	0.989	0.001
		(0.614)	(2.554)	(1.120)	(1.324)
INDSEN*LEV	+	-0.175+	-0.516	-1.113	0.000
		(-1.668)	(-0.710)	(-0.611)	(0.810)
R		0.459	0.472	0.390	0.293
R^2		0.211	0.222	0.152	0.086
R^{-2}		0.145	0.158	0.082	0.010
F		3.238**	3.473**	2.175*	1.139
p-value		0.004	0.003	0.044	0.347
DW		2.153	1.861	2.169	2.072

Source: Researcher's computation (2012)

With regard to the combined effect of company industry affiliations and size on the quantity of CSED, there is significant positive association between all the industry groups [INDF, INDMFG and INDSEN] and SIZE on CSEDindx; only INF*SIZE and INDMFG*SIZE are positively associated with CSEDsen. INDSEN*SIZE is insignificantly associated with CSEDp, CSEDsen, and CSEDpp. Again, only INDMFG*SIZE is positively associated with CSEDpp. The regression results for the combined effect of company industry affiliations and leverage on the quantity of CSED show that only INSEN*LEV has significant negative association with CSEDp. INF*LEV and INDMFG*LEV are not associated with all CSED quantity variables.

V. CONCLUSION

The purpose of the paper was to examine the impact of company characteristics on corporate social and environmental disclosures in Nigeria. It was found that using different units to measure quantity of CSED such as: number of sentences, number of pages, proportion of pages and disclosure index in annual reports provide different results. In particular, the number of pages, disclosure index and proportion of pages seems to provide better results than the number of sentences. The OLS regression results of the panel data reveal that company size, profitability, industry type, diversification, leverage and corporate reputation are found to be significantly associated with the quantity of CSED. The company age, capital intensity, and research and development are not significantly associated with the quantity of CSED. Specifically the company size proxy by the number of employees, and the corporate reputation have significant and positive association with all measures of CSED quantity. The results support the legitimacy theory.

As regards the combined effect of size, industry and leverage on corporate social and environmental disclosures suggested for further study by Lee & Hutchison (2005), the OLS regression results reveal that the combined effect of size and industry is positive and significantly associated with the quantity of CSED. Moreover, the combined effect of size and leverage has positive and significant association with CSED page while the combined effect of industry type and leverage is not significantly associated with the quantity CSED except for the negative and significant association of environmentally sensitive industries with CSED page.

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