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Environmental Reporting in Ghana: Issues and Determinants

Ibrahim Anyass Ahmed
Lecturer, Department of Accounting, School of Buisness,
University of Education, Winneba, Ghana
Nicholas Asare
Lecturer, Department of Accounting and Finance,
Methodist University College, Ghana
Alhassan Musah
Lecturer, Department of Accounting, Dominion University College, Ghana

Abstract
This study investigates the factors influencing Environmental Disclosure (ED) of companies in Ghana and the nature of ED generally. It examines the relationship between ED and other variables; firm- specific and corporate governance variables. It dwells on the notion of disclosure theory and argues for the inclusion of environmental information as part of the broader corporate disclosure practices of companies. The nature of environmental reporting in consonance with the accounting principle of faithful representation was thus assessed through corporate annual reports. The Ordinary Least Square (OLS) regression model developed was used to ascertain the relationship between the variables. Sample included companies listed on the Ghana Stock Exchange (GES) and non-listed companies. The study found mixed results for firm specific variables. Regulation and location were found to be significant and insignificant respectively, in relation to the ED. The study recommends the need for regulators to ensure a movement from mere ED to monetary disclosure. Also, the institution of Environmental Award Schemes by government to encourage ED is recommended coupled with ensuring that companies develop an Environmental Management System as part of the broader Management Information System.

Keywords: *Environmental disclosure, social and environmental reporting, corporate social reporting, Ghana stock exchange, international accounting standards board*

1. Introduction

Global environmental changes and its unprecedented impact on human development have shifted the pace of global environmentalism over the last two decades. Whiles individuals continue to develop interests in businesses and their impact on the natural environment, governments, business partners, civil society, have likewise doubled up their watch-dog role in ensuring effective corporate environmental citizenship (Gallego-Álvare, &Ortas, 2017; Gallego-Alvarez et al., 2017; Liu et al., 2016; Bhimani et al., 2016; Karassin& Bar-Haim, 2016; Michelon et al., 2016). Specifically, professional associations, such as the Institute Of Chartered Accountants, Ghana (ICAG) have taken keen interest in Social and Environmental Reporting (SER) of companies. Similarly, scholars have extensively argued that there is an increasing interest of stakeholders in corporate environment citizenship reporting (Liu et al., 2016; Bhimani et al., 2016; Karassin & Bar-Haim, 2016; Michelon et al., 2016). The demand from stakeholders on companies to report environmental issues is to help reflect concerns about environmental protection, intergenerational equality, the earth and its resources (Liu et al., 2016; Henderson & Peirson, 2004). Arguing further, Brammer and Pavelin (2006) posit that, the request from stakeholders for corporations to report such information is premised on the continual reliance of the latter on the environment. Since corporate environmental reporting sits within the domain of corporate accountants and corporate accounting systems, the above postulates indicate that, accounting reports must be seen as not only reflecting events in the environment but rather helping to shape the environment premised on the interdependence relationship between accounting and the environment.

Although environmental reports are generally voluntary in nature, some nations have developed rules to regulate it including Ghana. These rules are aimed at mitigating the detrimental environmental consequences of the actions of corporations. Ghana passed the Environmental Protection Act (Act, 592) in 1994 to regulate the activities of companies which impact on the environment. In order not to violate these legislations, companies employ a number of mechanisms in reporting environmental information (Ullah et al., 2014). Additionally, the Global Reporting Initiative (GRI) was initiated in 1997 by the Coalition for Environmentally Responsible Economies (CERES) and the United Nations Environmental Program. The GRI Guidelines follow 11 reporting principles (transparency, inclusiveness, auditability, completeness, relevance, sustainability context, accuracy, neutrality, comparability, clarity, and timeliness) to ensure that sustainability reports present a balanced and reasonable account of firms' economic, environmental, and social performance and credibly address issues of concerns to stakeholders (GRI, 2006).

The underlining causes of the reported heterogeneous responses among firms operating within similar politico-legal environment have barely been studied. Again, the few existing studies that have attempted to impregnate the issues (such as Solomon et al, 2013; Bebbington et al, 2012; Samiolo, 2012; Cho et al, 2012; Galani et al, 2011; Clarkson et al, 2010; Cromier & Magnan, 2007) have largely concentrated on the global north with barely a few focusing on the global south (see Ali & Rizwan, 2013; Iqbal et al, 2013; Ahmed, 2012; Asdal, 2011; Dhaliwal et al, 2010; Islam &Deegan, 2008; Rahman et al, 2004; Thompson & Zakaria, 2004). A near-global review of environmental reporting by the Global Reporting Initiative (GRI) found that, on a continental basis Africa and Oceania appear to be relatively low (3% and 4% respectively) with a large number of such studies conducted in Europe (45%), Latin and North America (28%) and Asia (20%).

In recent times, the environmental effects of corporate bodies in Ghana continue to feature in national debates. There appears to be a rise in environmental disasters arising from corporate activities within the Ghanaian society. Thus, actors within the socio-political and economic landscape are questioning the roles of companies in Ghana in relation to the environment. This study therefore aims at examining environmental reporting of corporate organizations in Ghana. The study specifically attempts to explore the extent and/or nature of environmental reporting among Ghanaian firms and what influences their reporting behavior. The paper is further structured as follows: section two discusses extant literature in relation to the topic, the methods and data of the study are presented in section three, section four presents the analysis of findings and the last section provides the conclusions of the study.

2. Review of Literature

2.1. Overview of Environmental Reporting

Environmental reporting is a concept subdued under the broader Sustainability accounting concept. According to Jones (2011), the momentum for environmental reporting developed after the sustainable development debate which was commenced by the Brundtland report in 1987. Unlike other aspects of CSR, environmental reporting is a relatively new feature of Corporate Financial Reporting (CFR) and as such an understudied area. Although this area continues to be predominantly voluntary, it seems to be regulated in recent times. For instance, state-governments have identified the need to develop rules on how to mitigate the detrimental effects of activities on the environment. Ghana passed the Environmental Protection Act—EPA (Act, 592) in 1994 to regulate the activities of companies. Equally, some companies have developed a number of approaches to meet this demand -- such as the use of annual reports and media releases.
According to Ali & Rizwan (2013), Corporate Social Disclosure (CSD) could be used interchangeable with Environmental Reporting (ER) and Environmental Disclosure (ED). In line with this, Environmental reporting is defined to include the aspect of a company's reporting and disclosure practices which allows the company to disclose information concerning its societal and environmental performance (Othman & Rashid, 2009), thus extending the accountability of organizations beyond the traditional role of providing financial information to shareholders (Gray et al., 1988), to reporting the effect of a company's activities on the environment.

2.2. The Extent of Environmental Reporting

This refers to the nature and level of disclosure of environmental information. In the view of He & Loftus (2014), the level of environmental reporting refers to the scope while the nature refers to the extent of objectivity and verifiability. Effective environmental reporting is thus based on credibility (Aerts & Cromier, 2009) which connotes faithful representation. Credibility refers to the degree of congruence between verbal claims and corresponding acts or events (Cromier, 2009). Therefore, actions construed to be contrary in relation to what a company provides in a report could be termed "incredible'. In satisfying this condition, most studies have relied on annual reports. According to Clarkson et al., (2011), soft disclosures include reports which provide less information and are easy to mimic. In line with this, firms with "bad" environmental practices most likely adopt this mechanism. In contrast, hard disclosures provide more objective and verifiable information and are employed by firms with superior environmental performance to signal economic rationalism (Clarkson et al., 2008).

Results on the extent of environmental reporting have been mixed in the literature across nations and industry. In a Bangladeshi study, Ahmed (2012) concluded that companies within the pharmaceutical sector provided more environmental information than those in other sectors. Hossain et al. (2006) conclude that, disclosure of environmental information was quite disappointing even though annual reports were employed. Ullah et al. (2014) contend that, companies provided minimum information for financial, energy and policy items. However, Nurhayati et al. (2006) provide evidence for the disclosure of more policy and sustainability issues. In India, Chatterjee& Mir (2008) indicate the use of both annual reports and web-sites for disclosing monetary and non-monetary items.

2.3. Determinants of Environmental Reporting in Developing Countries

Studies in the area of environmental disclosures have discussed factors which influence the subject matter. These factors have been classified as firm characteristic factors (Aguilera et al, 2007) or micro and macro level factors (Bowin, 2013).

2.3.1. Firm Size and Environmental Reporting

Measures such as sales, total assets, and number of employees have been used to operationalize firm size (Galani et al., 2011). Prior research indicates that, there exists a positive relationship between environmental reporting and firm size (see Delgado-Márquez et al., 2017; Christensen & Hughes, 2004; Freedman & Jaggi, 2005; Stanny & Ely, 2008; Hackston &)

in both developed and developing countries. Equally, studies such as Bouten et al. (2012) and Omnamasivaya and Prasad (2016) provide evidence of a negative relationship. According to Watts and Zimmerman (1983), the widespread nature of shareholders allows large companies to reduce agency cost whiles small firms may not be able to afford the costs for collecting and disclosing environmental information due to their resource constraints (Owusu - Ansah, 1998; Galani, 2011).

2.3.2. Profitability and Environmental Reporting

The association between profitability and environmental reporting has been mixed. Lu and Abeysekera (2014); Omnamasivaya and Prasad (2016) both report a positive relationship between the two variables. Thus, companies which report high profit margins are motivated to report about the environment. This informs stakeholders (consumers, shareholders, investors) about the reputation of the company compared to low performing companies. However, other studies report a negative relationship (see Moroney et al., 2012; Bowrin, 2013; Peters and Romi, 2013).
Wegener et al. (2013).

2.3.3. Industry and Environmental Reporting

Literature has shown that companies are motivated to disclose information because some companies within the industry do same (Deegan, 2009; Deegan& Jeffry, 2006). Sangle (2010) argues that companies have been forced to disclose environmental issues based on pressure from competitors. More specifically, firms that operate in areas that are sensitive and have high environmental impact (Liu and Anbumozhi, 2009; Salama et al., 2012) are geared towards producing more environmental information (Bowen, 2000; Patten, 2002; Brammer and Pavelin, 2008).

2.3.4. Foreign Influence (Ownership) and Environmental Reporting

Solomon & Linda (2000) categorize factors which influence companies to disclose environmental information into groups and the above constitutes the third group. This group includes multinationals and competitors adopting Corporate Social and Environmental Disclosure (CSED). Although they operate outside their home nations, multinational corporations in the view of Amran & Susela (2008) try to comply with international norms and standards; whether it is required locally or not. Subsidiary companies are therefore motivated to engage in environmental reporting because the parent company does same (Ali &Rizwan, 2013).

2.3.5. Location and Environmental Reporting

As far as this study is concerned, literature has not indicated the influence location of a company (in a capital city or industrial hub) has on environmental disclosure within the Ghanaian context. However, in a related study, Yao and Liang (2017) explored the relationship between environmental disclosure and the location of a company; focusing on distance. The study reports a significant but negative relationship.

2.3.6. Regulation and Environmental Reporting

Many countries have developed a number of rules to enable firms report issues in relation to the environment. Studies in relation to this variable, albeit limited, indicate the use environmental laws. In a related study, D'Amico et al. (2016) report a statistically significant relationship between regulation and environmental reporting. Also, Delgado-Márquez et al. (2017) report that, regulation has a negative impact on environmental information.
The EPA in Ghana is mandated to monitor the activities of companies that might have adverse impact on the environment. This study seeks to find out whether the presence of EPA as a regulator influences companies to engage in ED.

3. Data and Methodology

Data from the study was derived the annual reports of companies in Ghana. The purposive sampling approach coupled with the ratings of the EPA were used to select sample companies. Activities of the sampled companies were found to be sensitive to the environment and the ease with which their financial statements could be assessed. In all a total of 25 companies were used—comprising 23 listed and 12 non-listed companies for the period 2010-2014. Based on the classifications of the GSE, companies were grouped into; Manufacturing, Food & Beverages, Distribution & Trading, Pharmaceutical, Printing & ICT, Mining & Exploration, and Energy. This categorization helped in analyzing the environmental reporting practices between industries. Analysis were conducted around themes depicting the accounting information qualities of comparability, understandability, relevance, and reliability. The extent of reporting, in line with prior studies (Gruthrie&Mathews, 1985; Gruthrie&Parker, 1990; Niskala&Pretes, 1995; Movena&Llena, 2010) were assessed using the following themes:

Theme	Definition
a. Type	The quantification of environmental information. That is, whether information is "monetary" or "non-monetary or declarative".
b. Sections	The section of the annual report used for reporting. That is, whether "chairman's report" or "other sections" of annual report is used.
c. Outlook	The type of information provided. Whether information is "forward looking" or "historical"

Table 1: Definition of Themes

3.1. Total Disclosure Sore (TDS)

Content Analysis is a method which has been used in disclosure studies in developing TDS. Weights have been used in previous studies to ascertain TDS (see Boesso& Kumar, 2007; Brammer&Pavelin, 2008; Movena&Llena, 2010; O'Sullivan et al. 2008). In this study, a disclosure index is used to assign weights. In line with Chau and Gray (2002), the un-weighted approach is applied since it does not discriminate between the relative merits of information provided. The study therefore adopts un-weighted disclosure index from Gray and Abeysekera (2006) and Cooke (1992). The TDS represents the dependent variable- ER, used in the model.

3.2. Model Specification

The econometric model below was adapted from Browin (2013)

$ER_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 PROF_{it} + \beta_3 IND_{it} + \beta_4 OWN_{it} + \beta_5 LEV_{it} + \beta_3 LIQ_{it} + \beta_7\ BODIND_{it} + \beta_8\ RDUAL_{it} + \beta_9\ EDUC_{it} + \beta_{10}\ GENDIV_{it} + \beta_{11} LOC_{it} + \beta_{12} REG_{it} + \varepsilon_{it}$

Variable	Measurement	Empirical Source
Profitability (PROF)	Natural logarithm of Return on Assets (ROA)	Brammer and Pavelin, (2008); Cromieret al., (2011); Lim et al., (2007); Moroney et al. (2012), Bowrin (2013), Peters and Romi (2013); Wegener et al. (2013); Lu and Abeysekera (2014); Omnamasivaya and Prasad (2016)
Size	Natural logarithm of total assets	Brammer and Pavelin, (2008); da Silva Monteiro and Aibar-Guzman, (2010); Peters &Romi, (2011); Lu and Abeysekera (2014); Rosa et al. (2014); Delgado-Márquez et al. (2017); Bouten et al. (2012); Omnamasivaya and Prasad (2016)
Leverage (LEV)	Ratio of total debt to total assets	Abdul Rahman and Haneem, (2006); Barako et al., (2006); Brammer and Pavelin, (2008); Cromier et al., (2011); Haniffa and Cooke, (2002); O'Sullivan et al., (2008); Peters &Romi, (2011).
Liquidity (LIQ)	Current ratio	Alsaeed, (2006); Barako et al., (2006); Fontana and Macagnan, (2013).
Industry (IND)	Dummy; (1) if company belongs to an environmental sensitive industry and (0) otherwise	Campbell (2004); Lim et al. (2007); Reverte (2009);Liu and Anbumozhi (2009); Salama et al. (2012); Sobhani et al. (2012); Uyar et al. (2013).
Foreign influence (OWN)	Dummy; (1) if company has foreign ownership and (0) otherwise	Belal and Momin (2009); Holland and Foo (2003); Amran and Susela Devi (2008).
Board independence (BODIND)	Proportion of independent non-executive directors on the board	Abdullah et al. (2011); Barako and Brown (2008); Lim et al. (2007); Rupleyet al. (2012).
Role duality (RDUAL)	Dummy; (1) if CEO is also chairman of board and (0) otherwise.	Abdul Rahman and Haniffa (2005); Baliga et al. (1996); Finkelstein and D' Aveni (1994); Rechner et al. (1991).
Director's educational background (EDUC)	Proportion of directors on the board with business, accounting or finance background	Peters and Romi (2011); Post et al. (2011);
Gender diversity (GENDIV)	Proportion of female directors to total directors on the board	Bowrin (2013); Francoeur et al. (2008); Kang et al., (2007); Campbell and Minguez-Vera (2008).
Location (LOC)	Dummy; (1) if company is situated in regional capital or industrial hub and (0) otherwise	Yao and Liang (2016)
Regulation (REG)	Dummy; (1) if company complies to EPA regulation and (0) otherwise	D'Amico et al. (2017); Delgado-Márquez et al. (2017)

Table 2: Measurement of Econometric Variables

4. Data Analysis and Discussion of Findings

This section provides analysis of the data and further discussions in relation to the variables and themes as indicated.

4.1. Descriptive Summary Statistics on the Extent of Environmental Reporting

The summary descriptive statistics presented below indicate that companies disclosed some information in relation to the themes developed for the study. This can be verified from the reported means and deviations. The means also show that, companies only indicated their intent (declarative) in relation to environment (56%) rather than providing the actual amount expended (9.2%). There was no substantial departure from the section of annual reports used in providing environmental information. Both "chairman's report" and use of "other sections" of the annual report presented average standard deviations of 50% (Approx.). The maximum and minimum values shown depict the nature of categorization- use of a dummy.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Monetary	163	0.092	0.29	0	1
Declarative	163	0.56	0.50	0	1
Chairman	163	0.40	0.49	0	1
Other	163	0.42	0.50	0	1
Forward	163	0.61	0.49	0	1
History	163	0.28	0.45	0	1

Table 3: Descriptive Statistics on the Extent of Environmental Reporting

4.2. Analysis of Various Themes in Relation to Environmental Reporting

Table 4 shows an analysis of the theme in relation to listed and non-listed companies. This was done to provide an overview of the nature of reporting between the two groups. Ideally, both groups seem to report on environmental issues. It must be noted that, companies listed on the GSE are expected to engage in superior reporting, arguably, because, their activities are highly regulated. As evidenced in the table 4, Non-listed companies disclosed monetary information than listed companies without much difference in declarative reporting among the two groups. Majority of listed companies reported environmental issues through the chairman's report (60.9%) as compared to their non-listed counterparts (39.1%). Lastly, whereas non-listed companies provided information which was historical in nature, environmental information disclosed by listed companies was forward looking. Following from the above analysis, environmental reporting in seems to have gained some prominence among Ghanaian companies compared to other jurisdictions (see; Movena & Llena, 2000; Chatterjee& Mir, 2008).

Themes	Definitions	Listed (%)	Non-listed (%)	Total (%)
Type	Monetary	15 (30)	35 (70)	150 (100)
	Declarative	58 (51.3)	55 (48.7)	113 (100)
Section	Chairman	53 (60.9)	34 (39.1)	87 (100)
	Other	34 (44.7)	42 (55.3)	76 (100)
Outlook	Historical	21 (42)	29 (58)	50 (100)
	Forward looking	68 (60.2)	45(39.8)	113 (100)

Table 4: The Extent of Disclosure for Listed and Non-Listed Companies
Figures Shown in Parenthesis Represent Percentages

4.3. Industry Analysis on the Extent of Environmental Reporting

Table (5) below, provides information in relation to the disclosure of environmental issues in their annual reports. The total score for each category is based on the disclosure checklist adapted from Gray and Abeysekera (2006) after a pilot with 20 companies. Disclosure checklist items pertaining to the environment included; Policy, Pollution, Energy, Financial, and Other items. Environmental 'other' items included issues such as reduction in accidents, EPA regulations, ISO14001 and Certification.

The results in the table (5) show that, the trend in other nations as reported by related studies (see Movena&Llena, 2000); Chatterjee& Mir, 2008) are similar to that of Ghana. Thus, companies which operate in the Mining and Exploration sectors of the Ghanaian economy disclosed environmental issues than their other counterparts. Next was those in the Food and Beverages industry, Manufacturing, Energy, Distribution and Trading, Pharmaceutical, and lastly those found in the printing and ICT sectors in descending order. However, in a related study, Ahmed (2012) reported that companies in the pharmaceutical industry reported more environmental information than their counterparts in other sectors. Again, in Chatterjee& Mir (2008) companies in the Oil and Gas sector followed by manufacturing industries provided more environmental information than their other counterparts. The results shown in this study for the mining and exploration industry was expected. This is largely due to the nature of their operations which have great detrimental effects compared to others.

Category	No. of Companies in Sample	Total Amount of Disclosure	%
Manufacturing	7	64	16.54
Food and Beverages	5	85	21.96
Trading and Distribution	4	25	6.46
Pharmaceutical	2	10	2.58
Printing	3	3	0.78
Mining and Exploration	10	160	41.34
Energy	4	40	10.34
Total	25	387	100

Table 5: Total Disclosure Scores for Company Category within Sample

Variable	Obs.	Mean	Std. Dev.	Min	Max
ER	174	5.75	6.03	0	18
Location	175	0.83	0.38	0	1
Regulation	158	0.26	0.44	0	1
Size	152	1.49	2.8	183,067	2,000,000,000
Profitability	151	-0.31	0.54	-4.64	2.31
Industry	175	1	0	1	1
Ownership	175	0.43	0.5	0	1
Leverage	152	0.31	0.56	0	4.95
Liquidity	152	2.25	2.72	0.8	19.82
Board independence	170	0.29	0.29	0	0.8
Role duality	170	0.3	0.46	0	1
Education	170	0.23	0.51	0	3
Gender diversity	169	0.17	0.15	0	0.5
Stock exchange	175	0.66	0.48	0	1

Table 6: Descriptive Statistics

Descriptive statistics are presented in Table 6. Results are for the various variables used in the regression model. Total observation firm-year observations was expected to be 175 for sampled firms. The results also depict the average of each indicator employed for the study. The mean for location 0.83 indicates that majority of the companies operate within an industrial hub. The negative mean for profitability appears worry, signaling that, losses have been on the increase within the study period. Leverage appears to constitute 31% of the capital mix of the company whereas 43% of companies have foreign ownership. At least 23% of corporate boards have individuals with some accounting and finance education. Again, 17% of board appointments are females, although not encouraging. Approximately more than half of the companies are reported to be listed on the GSE.

Dependent Variable: ER	Coefficients
Location	-3.527389*** (1.3483)
EPA	2.903175*** (1.071554)
Size	-000000000.134 (000000000.163)
Profitability	1.954205** (0.8106464)
Ownership	4.674701*** (0.9367417)
Stock Exchange	-4.145613 (2.926996)
Leverage	1.81467** (0.7750753)
Liquidity	0.3206866* (0.1617625)
Board Independence	-4.622358** (1.853525)

Dependent Variable: ER	Coefficients
Role Duality	-2.066928 (2.604838)
Education	1.20924 (0.7985867)
Gender Diversity	0.3956856 (2.96576)
Constant	9.309593*** (2.926996)
R squared Std. Error of Regression F-statistic Prob. (F-statistic)	0.4081 0.2103 9845 0.0000

Table 7: Model Results
****, **, And* Denote Significance Levels of 1%, 5%, and 10% Respectively*
Coefficients Are Indicated In Parenthesis with Related P-Vales

The regression analysis is used to assess the relationship between variables and their significance. After testing for Fixed and Random Effects of the panel data, the Ordinary Least Square (OLS) panel was found to be the most robust for this study and presented in Table 7. The statistic corroborates the validity of the estimated model compared with other studies (see; Marshall et al., 2011; Peters &Romi, 2011; Post et al., 2011; and Rupleyet al., 2011).

The results show a negative insignificant relationship between size and environmental disclosures. This was not expected by this study. Thus, the assertion that size influences environmental disclosures might not be supported based on the findings of this study, similar to those found in other studies (see for instance:Bouten et al., 2012; Omnamasivaya&Prasad, 2016; Cromier&Magnan, 2003; Smith &Amiruddin, 2007). However, Lu and Abeysekera (2014), Rosa et al. (2014), Loftus and He (2014) and Galani et al. (2014) provide evidence that size is significantly related to environmental disclosures. Again, Bowrin (2013) conclude that large firms disclose more environmental information than small firms.

Profitability is found to be significant and expected. The positive sign provides evidence to support the notion that, the profitable companies are able to budget in order to meet the obligation pursuant to the environment and is in line with this assertion,Iqbal et al., (2013) contends that disclosing environmental information provides companies with vast opportunities which includes increases in profit. Loftus and He (2014) found this variable to be insignificant whilst Rao et al. (2012) concluded that this variable even though significant leads to a reduction in environmental disclosures. Results presented for ownership as an independent variable in this study is similar to those of Bowrin (2013) Belal and Momin (2009) and Cromier and Magnan (2003). Thus, companies with foreign ownership largely mimic the reporting style of their parent companies wherever they operate. Findings do not support the argument that, listing on the stock exchange influences environmental disclosures. The relationship between listing on the stock exchange and environmental disclosures is not only found to be insignificant, but also negative. Galani et al. (2011) report the same results for this variable. Both Smith and Amiruddin (2007) and Loftus and He (2014) report that leverage and liquidity are insignificant. However, this study provides evidence of a significant relationship as with these two variables and the dependent variable as reported in Cromier and Magnan (2003).

The independence of a board is found to negatively affect environmental disclosures. By extension, the proportion of non-executive directors on a board will not impact the disclosure of environmental information. Previous studies present mixed results for this variable (see Haniffa& Cooke, 2002 and Rao et al., 2012). Previous studies have indicated a significant relationship between gender diversity (Rao et al., 2012) and education (Post et al., 2012). Findings of this study do not support this assertion. Thus, including female directors as part of a board, will not significantly lead to the disclosure of environmental issues. Same can be said for education.

The focus of this study, was to provide evidence of the influence location and regulation have on environmental reporting. Interestingly, both variables significantly influence ED. However, location takes on a negative sign with regulation showing a positive sign. The significance of both variables was expected. Thus, the presence of a regulator and the location of a company are driving factors for environmental reporting (D'Amico et al. 2017).

5. Conclusion

The study brings to fore the nature of EDand also finds out its determinants. The nature of ED is analyzed in line with the qualitative characteristics of financial statements. Sampled companies comprised those whose operations significantly affected the environment based on the GSE categorization. The study, thus, did not concern itself with companies who invested in the sampled companies. Although there were various channels through which environmental disclosures could be made, this study focused on annual reports.

Findings provide evidence of environmental reporting among Ghanaian companies in general. However, companies did not necessarily disclose how much they expended or budgeted for environmental matters. Perhaps, the IASB's requirement in relation to contingent liabilities and disclosure of material issues is largely ignored. The study also shows the use of the chairman's report in the annual report to tell the story of how "environmental friendly" Ghanaian companies are. Information provided about the environment tend to be forward-looking and not actually stating what the company has done.

The location of a company was found to influence ED significantly. This could mean that governments at the local level demand of companies to be environmentally responsible and sensitive. The significance of regulation, as an independent variable in relation to ED was largely expected. In Ghana, the activities of companies are regulated by the EPA. Thus, companies follow the requirements of the EPA in order not to be sanctioned or penalized. Interestingly, size and listing on the GSE were not found to influence ED significantly. However, variables such as profitability, ownership, leverage, and liquidity were found to be significant determinants of ED. Corporate governance indices, employed as control variables provided mixed results. Particularly, the inclusion of females and individuals with accounting and finance education backgrounds on corporate boards may not necessarily affect ED.

Governments and its agencies should also put in mechanisms that will allow companies to disclose environmental information. Although not a sufficient condition, these mechanisms could be an avenue to reduce the burden on governments to protect the environment. Aside governments, regulators within industries should also educate their members on the need to disclose environmental information and the benefits which they are likely to derive there from. In a related study Galani et al. (2011) attributed the insignificance of listing status to the absence of compulsory environmental standards from the Athens stock exchange. It is therefore recommended that, the GSE will require companies as part of listing requirements to disclose some form of environmental information in their annual reports. Although the IASB requires disclosure of amounts spent in relation to contingent liabilities, these disclosures, arguably, are voluntary. There is therefore the need for government to promulgate legislations which will require companies to disclose the amount they spend in relation to the environment. These laws should require companies to set up environmental "development fund" to meet environmental obligations. The institution of environmental award schemes by government and other stakeholders will whip up the interest of companies not engaged in ED to do same. The EPA Act which was passed in 1994 has been in existence for two decades. The study recommends a need to revisit the Act and compare it with those in other jurisdictions. Moving forward, there will be the need to find out whether companies in Ghana have a set of Environmental Management Accounting System as part of the larger Management Information System and the willingness to institute same in the absence of any. Future studies could possibly focus on a survey to find out the factors which prevent companies from disclosing environmental information and if there are incentives for non-disclosure.

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