

COMPARATIVE EVALUATION OF SOCIAL AND ENVIRONMENTAL ACCOUNTABILITY OF LISTED NIGERIAN OIL AND GAS AND CONSTRUCTION AND BUILDING MATERIALS COMPANIES

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ABSTRACT

Listed Nigerian oil and gas and construction and building materials companies are significantly contributing to the socio-economic development of the country. Conversely, activities of companies in these sectors are associated with numerous social and environmental impacts that are adversely affecting the society and environment. On the other hand, corporate organizations are increasingly facing public pressure to account for their negative social and environmental impacts. Disclosure of these impacts in the annual reports and accounts and other corporate documents serves as means of discharging the accountability. The aim of this study is to evaluate and compare the social and environmental accountability of these environmentally sensitive industries with significant contribution to the socio-economic development of Nigeria. Secondary data on social and environmental disclosure of 7 listed companies each from the two sectors selected using purposive sampling technique was collected from their annual reports and accounts 2009-2018 by word count content analyses. The samples are collected from total population of 12 and 21 companies from the oil and gas and the construction and building materials industries respectively. The evaluation takes the form of ascertaining volume of words devoted to social and environmental issues. Numeric and Graphical statistical tools are used to analyze and present collected data while t- test was conducted to

statistically determine the differences in the mean of disclosure practices of sampled companies. Results from the study revealed that the oil and gas companies provided more social and environmental words than the building and construction materials companies. However, disclosures by both industries are on few social and environmental issues pertaining to few legitimacy conferring stakeholders. Therefore, legitimacy theory and vulnerability and exploitability analytical framework better explain the disclosure. Consequently, government and corporate policy makers in Nigeria should pay attention to corporate social and environmental accountability to drive sustainable development in Nigeria.

Keywords: Social and Environmental, Oil and Gas Companies, Construction and Building Materials companies, Word count, Vulnerability and Exploitability.

1. INTRODUCTION

Mankind is using energy in residential and commercial buildings for heating, air conditioning, lighting, and operating appliances, in the transport sector, manufacturing, construction, mining, farming, fishing, and forestry activities among others (Energy Information Administration, 2018). Oil and gas sources of energy played significant role in the industrial revolution of the eighteenth century that took place in Great Britain spreading to other parts of the world (Paul, 2006). Since then, oil and gas are the dominant source of Global Total Primary Energy Supply (GTPES) accounting for 61.30% in 1973, 60% in 1983, 58.82% in 1993, 52.10% in 2003, 68.70% in 2013 and most recently 54.20% in 2017 (International Energy Agency, 2019, 2013; Paul, 2006). The International Renewable Energy Agency (IRENA) and the World Energy Council (WEC) projected that oil and gas fossil fuels will remain dominant in global energy supply up to 2050 (IRENA, 2018; WEC, 2013). The global Construction and Building material sector is also playing vital roles of jobs creation, driving economic growth while providing residential, non-residential, and infrastructure projects globally (International Finance Corporation, 2018; World Economic Forum, 2020). The industry's global output was estimated to be US\$11.18 trillion in 2018 (Schilling, 2019) which is projected to grow to US\$17.50 by 2030 (Global data, 2018; Betts, Robinson, Burton, Leonard, Sharda, & Whittington, 2015).

The contributions of the global oil and gas and the construction and building materials industries to global socio-economic development notwithstanding,

activities of the industries are associated with lots of social and environmental adverse effects (Mohammed, 2016; SnethKamp & Macklin, 2004; Robert, 1998 Garg & Gokavaparu, 2012; Hadi, 2015; Henderson, Reinert & Oseguera, 2020; Mohammed, 2019; Stocker, 2014; Tol, 2009). Activities of the global construction company are also embedded with health and social problems (Enshassi, Kochendoerfer, & Rizq, 2014) and environmental problems (Ahmed & Rahman, 2015; Ametepey & Ansah, 2015; Dixon, 2010; Mohammed, Yusuf, Bashir, Aishatu, & Muhammad, 2020a; United Nations Environment Program, 2019). Thus, the global oil and gas and construction and building materials industries while making positive contributions to global economic growth and development are also negatively impacting the society and environment. These two industries in Nigeria are also exhibiting the global patterns of positive contributions and negative effects.

The Nigerian oil and gas industry is the mainstay of the country's economy and its socio-economic developments being the major source of foreign exchange earnings and total federally collected revenues in the country (Central Bank of Nigeria, 2019). However, exploration and production and consumption of oil and gas is associated with lots of social impacts and problems (Allen 2012; Mohammed, et al., 2020c; Osuoka & Roderick, 2005). The industry is also having environmental effects (Ebegbulem, Ekpe & Adejumo 2013; Mohammed, Aishatu, Muhammad, Yusuf & Bashir, 2020c; Mohammed, 2019; Ugochukwu & Ertel 2008). The Nigerian construction and building materials industry are also making significant contributions to the country's economic development (Central Bank of Nigeria, 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2017 & 2018). However, activities of the industry are having negative social and health impacts (Akinkurolere & Franklin, 2005; Babatunde, 2012; Ejiofor, Uchechi & Ndidi, 2018; Eze, Seghosime, Eyong, & Loya, 2017; Ogunmakinde, Sher & Maund, 2019; Udo, Usip & Asuquo, 2016; Wahab & Lawal, 2011). These social and environmental negative effects of the Nigerian oil and gas and construction and building materials industries are happening at a time when corporate organizations are facing more public pressure to render accountability on their social and environmental negative effects (Mohammed, 2016; Phoprachak & Buntornwon, 2020; Rajat, Rinne, Hansen, & Juslin, 2006).

This social and environmental accountability is contended as more desirable in emerging economies like Nigeria where there is prevalence of corporate social and

environmental impacts (Hassan, 2012; Hannafi, 2006; Mohammed, 2016). Therefore, the aim of this paper is to evaluate the social and environmental accountability of Nigerian oil and gas and construction and building industries that are significant in the socio-economic development of the country. By comparing the disclosure practices of listed companies in these two important industries the study may one; contribute in revealing the extent of their social and environmental accountability. Two, the disclosure practices may reveal gaps in social and environmental accountability that may lead to dialoguing with stakeholders to address issues of contention. This may perhaps result in improvements in their disclosure practices and perhaps influences other industries within the Nigerian economy. Three, the study employed the use of modified word count content analysis which may perhaps be another contribution in the area of social and environmental accountability studies. Four, the study tested the suitability of legitimacy theory and vulnerability and exploitability analytical framework in explaining disclosure practices by listed companies in the two industries which may be another contribution. This introduction is section one; subsequent section two is on literature review; the methodology of conducting the study is discussed in section three while results and their discussions are presented in section four while section five is conclusion of the study.

2. LITERATURE REVIEW

In this section, existing literature related to this study are reviewed with the aim of identifying gaps; suitable data, its method of collection and analysis and theoretical underpinnings that will guide the conduct of the study. This study is comparative in nature; thus, it focuses on review of comparative studies conducted in other parts of the world and Nigeria in particular.

Handayati, Soetjipto and Alhaleh (2018) investigated contemporary disclosures of corporate social responsibility and related disclosures of sustainability of Indonesian Cement, Mining and Banking sectors. In addition, the study also critically analyzes the level of CSR compliance in each of the studied sectors. Data for the study was collected through the examination of annual reports and accounts of sampled companies for the years 2016–2017. Collected data was analysed qualitatively looking into meanings of the disclosure following agreed rules in case studies. However, the study is not guided by any conceptual or theoretical framework.

Results from the study on the overall, demonstrated that although voluntary in nature, CSR reporting by studied Indonesian sectors are moderate. The level of CSR compliance among the sectors differs with the banking sector demonstrating higher compliance than the cement and mining sectors. Although not underpinned by any theoretical framework, the study suggested that the patterns of CSR disclosure demonstrate attempts by sampled companies to gain legitimacy.

Zhang (2018) examined the extent of environmental and social disclosures in the annual reports and accounts of sampled companies in the mining, utility and chemical industries of China. The study also investigated the key drivers of the environmental and social disclosures of sampled companies to determine the motivations of sampled companies in making the disclosure. Data for the study was collected from the 2010 annual reports and accounts of sampled companies composing of 47 mining firms, 73 utility firms and 73 chemical firms to determine the extent of social and environmental disclosures using dichotomous index. To ascertain the determinants of the social and environmental disclosure, Ordinary Least Square (OLS) was employed while legitimacy theory underpinned the study. Results from the study revealed that Mining companies have achieved an average of 2.68 environmental disclosures per company, while utility and chemical companies have averages of 2.42 and 1.82 disclosures per company respectively.

On the overall, the extents of environmental disclosure among companies in the three sectors are similar and not high generally. On social disclosure, utility industry has the highest mean value averaging 5.55 followed by the mining industry with 5.49 and chemical industry with 4.96 mean of disclosures while on the overall, sampled companies have similar social disclosure which is generally low. Positive association is found between the extent of environmental and social disclosure and firm size, profitability, and firm age while engagement from industry showed strong significance in environmental disclosure. Corporate leverage was found significant in social disclosures while government ownership was found insignificant on either environmental or social disclosure. Legitimacy theory is found useful in explaining environmental and social disclosure by sampled companies.

Welbeck, Owusu, Bekoe, and Kusi (2017) examined the type of the most widely disclosed environmental-related information provided by firms in Ghana and the trend of such disclosure. Similarly, the study investigated the determinants of such

environmental disclosure by the Ghanaian firms. To determine the total environmental disclosure scores of the sampled firms, content analysis of the annual reports and account of 17 firms listed on the Ghana Stock Exchange (GSE) was conducted for the period 2003 to 2012. These sampled companies were categorized into environmentally sensitive (which include oil and gas and construction and building materials companies) and non-environmentally sensitive industries while the Global Reporting Initiative (GRI) index was used to benchmark the disclosure. To evaluate the determinants of the environmental disclosure practices of sampled companies, regression analysis was conducted. Legitimacy theory is employed in understanding the environmental disclosure practices of the sampled companies. Results from the study indicated that listed firms in Ghana disclose some amount of environmental information in accordance with GRI disclosure guideline; though, the level of the disclosure is generally low. The level of environmental disclosure by environmentally-sensitive firms is found higher than non-environmentally sensitive firms. Results from the regression analyses revealed that firm size, audit type, age of the firm and industry type are significant predictors of firms' environmental disclosure practices while legitimacy theory explains the pattern of the disclosure by sampled companies.

Behram (2015) extended the arguments on organizational legitimacy by analyzing the extent and content of environmental disclosures across sectors according to their environmental impact in Turkey. For this purpose, the Turkish industrial sectors were categorized into high, medium and low impact sectors. Data was collected from annual reports and accounts of 223 companies quoted on the Istanbul Stock Exchange (ISE) for the year 2013 using content analysis. Four dimensions of presence of environmental disclosure; presentation of environmental disclosure; location of environmental disclosure; and environmental disclosure items were systematically analyzed and compared. The study utilized the lens of legitimacy theory in understanding the disclosure practices of sampled companies. Results from the study indicated that companies in medium environmental impact sectors provided more environmental information than companies in high and low impact sectors. At industry level the highest percentage of disclosure was by the Oil and Gas industry (100%) as first, Building Materials industry (72.22%) as third followed by other industries. On Presentation of environmental disclosure, companies in high impact sectors have 5.35% which is lower than the medium impact sectors with 9.09%.

Although location of disclosures differs among companies, the medium impact companies are disclosing environmental information in Review of Company or Operations, Research/Development, Director's or Manager's Letter, while high impact companies are making environmental disclosure in Investments section. On items of environmental disclosure, Materials (19.64%), Emissions, Effluents, and Waste (57.14%) and Organizational Responsibility (25.00%) are the most disclosed in high impact sectors than in medium and low impact sectors. Consequently, results from the study fail to confirm legitimacy theory as an explicator of environmental disclosure in the context of Turkey. Thus far, reviewed studies are carried out within the context of other countries; however, there are cross industry studies within the context of Nigerian.

Akparhuere (2019) carried out a comparative analysis of environmental reporting practices and its effect on performance of listed oil and gas and consumer goods firms in Nigeria. Data for the study was obtained from the annual reports and accounts of the sampled companies totalling six, three each from the two sectors using purposive sampling technique in choosing companies included in the study. Collected data was on Total assets, and expenditures on Ethical Social Responsibility, Economic Social Responsibility, and Discretionary Social Responsibility. To analyse collected data, SPSS version 20.0 employing correlation coefficient, coefficient of determination and the simple regression analysis model were used. The study is guided by legitimacy theory in trying to understand the disclosure practices and its effects on performance of sampled companies. Results from the study revealed that discretionary social responsibility reporting practices such as donations and gifts have significant effects on performance of oil and gas and consumer goods companies in Nigeria. Legitimacy theory is found useful in explaining the patterns of the disclosures as discretionary social responsibility practices are employed to ward off restiveness in the communities where they are operating.

Otu, Ejovwokeoghene and Morenike (2016) investigated the Corporate Social Responsibility (CSR) disclosure practices of Nigerian quoted companies and their determinants. Data for the study was obtained from the online published annual reports of selected 45 companies quoted on the Nigerian Stock Exchange (NSE) for the period 2013 to 2014. Sampled companies are drawn from eight sectors that

included Consumer Goods, Conglomerates, Construction, Healthcare, ICT, Industrial Gas, Oil and Gas and Services. To determine the level of CSR disclosures, a checklist of disclosure items was developed by the researcher scoring 1 for full or partial disclosure and 0 for non-disclosure. The determinants of disclosure were proxied by company size, profitability and auditor type. The study is not underpinned by any theoretical framework while collected data was analyzed using descriptive statistics, correlation and regression. Findings from the study revealed that the level of CSR was 74%, made up of social disclosure (68%) and environmental disclosure (6%). Findings also revealed that CSR was influenced by company size and auditor type; but not by profitability.

Oba and Fodio (2012) examined the extent of environmental disclosures by quoted oil and gas and construction industries in Nigeria. Data utilized in the study was obtained through content analysis of annual reports and accounts of sampled companies five each from the oil and gas and construction industries to ascertain environmental information provided 2005-2009. This takes the form of ascertaining the comprehensiveness of the environmental disclosures and existence of significant differences between both industries. The study does not employ any theoretical framework in explaining the environmental disclosure of sampled companies. The independent samples T- Test was used to determine the existence of significant difference in the mean scores of the two case industries. As a robustness test, Mann-Whitney U Test which is non-parametric alternative to T-test was used to test for the hypothesis of no significant difference. Findings from the study indicated that the oil and gas industry provided better disclosure level than the construction industry although the difference is not significant while both industries presented very little environmental information in their annual reports. From obtained results, it is evidently clear that the two most environmentally sensitive industries in Nigeria provided poor environmental disclosure levels in their annual reports. These industries are expected to have demonstrated high environmental concerns; thus, should have demonstrated sound environmental reporting; contrarily, the two industries have overall average disclosures of 20.6 for oil and gas and 17.2 for construction which is considered as low.

Uwalomwa and Uadiale (2011) investigated the level of corporate social environmental disclosure among listed companies in the Nigerian brewery and

building material industries 2004-2008. The corporate annual reports for these years were utilized as main source of secondary data for the study which was obtained through content analysis technique of collected annual reports by measuring the disclosure in terms of themes and evidence. The Kinder Lydenberg Domini (KLD) dichotomous score procedure on social environmental performance rating was used to measure the Reporting Score (RS). A score of one (1) was awarded if an item was reported; otherwise a score of zero (0) was awarded. The student t-test statistics was used in analysing the presence of significant difference in the level of corporate social environmental disclosure between the two sampled industries while legitimacy theory underpinned the study. Descriptive statistics result reveals that all the sampled companies from the two industries have some form of form of corporate social environmental information disclosed in their annual reports with Nigerian brewery industry providing higher disclosure than the building material industry. Based on findings from the study, it is concluded that corporate social environmental disclosures among the selected companies is basically very low and still at its embryonic stage.

From reviewed literature, the study by Handayati, Soetjipto and Alhaleh (2018) was carried out in Indonesia and looked into the cement, mining and banking industries comparatively. The study is for two years employing qualitative analysis and not guided by any theoretical framework. Zhang (2018) conducted the study in China for one year covering mining, utility and chemical companies. Collected data was analysed using regression analysis and it is underpinned by legitimacy theory. Welbeck, Owusu, Bekoe, and Kusi (2017) conducted their study in Ghana for the period of 10 years and included in the sample of companies are oil and gas and construction companies. Regression analysis was employed in the analysis of data while legitimacy theory underpinned the study. The study by Behram (2015) was conducted in Turkey for one year and the sample included oil and gas and construction companies and is underpinned by legitimacy theory.

Specifically, on studies conducted in Nigeria, the study by Akparhuere (2019) covered 10 years employing data on financial expenditure on CSR themes. Legitimacy theory was used in explaining the disclosure while regression analysis was utilized to analyse collected data. Otu, Ejovwokeoghene and Morenike (2016) conducted their study on listed Nigerian companies drawn from eight sectors that

included the oil and gas and construction and building materials sectors. The study was for two years that employed dichotomous score and is not underpinned by a theoretical framework. Oba and Fodio (2012) conducted their study for five years that focused on Nigerian oil and gas and construction industries; however, the study is not guided by a theoretical framework and employed regression analysis in analyzing collected data. Uwalomwa and Uadiale (2011) studied environmental disclosure by Nigerian brewery and building material industries for five years using dichotomous scoring system. The study is guided by legitimacy theory while regression analysis is used in analysing collected data along with student t-test to determine differences in the mean of disclosure.

Although all these studies used content analysis of annual reports and accounts in data collection; this study employed modified word counts content analysis different from all the methods employed in reviewed studies; this may perhaps be a contribution of this study. Similarly, apart from Welbeck, Owusu, Bekoe, and Kusi (2017) and Akparhuere (2019) that conducted their studies for 10 years all other studies are conducted for shorter periods. Therefore, with this study covering 10 years, it may reveal trends of disclosure and give better insight on social and environmental accountability than other reviewed studies with shorter period of coverage which may be another possible contribution of the study. Collected data in this study is analysed using numeric and graphic descriptive statistics and student t-test which is consistent with Uwalomwa and Uadiale (2011); thus, may reveal consistency or differences on findings. Although this study use legitimacy theory in an attempt to explain the social and environmental accountability of sampled companies in consistent with Akparhuere (2019); Zhang (2017); Welbeck, Owusu, Bekoe, and Kusi (2017); Behram (2015) and Uwalomwa and Uadiale (2011); testing the theory may provide further insight on the suitability of the theory in explaining studies in Nigeria. In addition, the use of legitimacy theory and vulnerability and exploitability analytical framework may be a contribution of this study from the theoretical perspective; subsequent section is on methodology of conducting the study.

3. METHODOLOGY

The approach used in conducting research which involves body of methods is simply the methodology while techniques used in collecting and analysing data for the research represent methods (Collis & Hussey, 2014). This study evaluated the social and environmental accountability of listed Nigerian oil and gas and construction and building materials companies by ascertaining volume of disclosure through word count content analysis. Social and environmental words disclosed by sampled companies in their annual reports and accounts constitute an objective reality of their accountability, it is a valid knowledge which is quantitatively obtained through content analysis. Therefore, this study obtained facts about the social and environmental accountability of sampled companies and also employ t-test to statistically establish significant differences between the mean values of companies in the two sectors. Thus, the study is following the positivism research paradigm in evaluating the social and environmental accountability of sampled companies. It is imperative at this point to specify the data for the study and its collection.

Data and its collection

The main sources of data for this study are the annual reports and accounts of the sampled companies which were collected online in PDF format; these are then converted to words documents using ABBYY PDF transformer. Relevant social or environmental information is then collected through content analysis of collected annual reports and accounts. Content analysis is defined as “a method by which selected items of qualitative data are systematically converted to numerical data for analysis” (Collis & Hussey, 2014, p. 166). The method is also regarded as quantitative analysis of qualitative data (Morgan, 1993) associated with the positivism research paradigm (Collis & Hussey, 2014). The method is described as objective, systematic and quantitative (Mohammed, 2016; Berelson, 1952) which assumes that extent of disclosure signifies the importance of the disclosed topic to the reporting entity (Krippendorff, 2012, 1980). Content analysis method of data collection has the strength of allowing the use of retrospective data, its track and changes over time which could be useful in building data base that reflect trends in a social system (Babbie, 2013; Kondracki, Wellman & Amundson, 2002). To determine volume of disclosure, word counts (Mohammed, et al., 2020a; Wasara & Ganda, 2019; Mohammed, 2018; Mohammed 2016; Zeghal & Ahmed, 1990);

sentence counts (Jessop, Wilson, Bardecki, & Searcy, 2019; Hackston & Milne, 1996); average lines (Belal & Lubinin, 2009; García-Ayuso & Larrinaga, 2003); and proportion of pages (Lungu, Caraiani & Dascălu, 2011a; Gray, Kouhy & Lavers, 1995b) were used and a researcher is free to choose the method considered most appropriate (Mohammed et al., 2020a; Williams, 1999).

Word count content analysis record disclosure levels in greater detail (Mohammed et al., 2020c; Deegan & Gordon, 1996) and is easier to be categorized (Mohammed, 2016; Wolfe, 1991; Weber, 1990). Therefore, it is expected to reveal quantity of disclosure (Mohammed, et al., 2020e; Zeghal & Ahmed, 1990). Likewise, word as the smallest unit of measurement is expected to provide maximum robustness when assessing quantity of disclosure (Mohammed, 2016; Wilmshurst & Frost, 2000). The method is not without criticism, such as being tedious when analysing large volume of textual data (Hassan, 2012; Hackston & Milne, 1996), and lack of meaning to provide sound basis of coding disclosure (Hassan, 2012). Consequently, to benefit from the strength of word count content analysis while addressing its criticisms, this study adopted modified word count (Mohammed, 2016) in which number of words in a sentence conveying meaningful social or environmental information are counted, rather than individual social or environmental words that have no meaning. To determine social or environmental disclosure of sampled companies in this study, Global Reporting Initiative (GRI) disclosure guideline is used as benchmark. GRI is a multi-stakeholder, international guideline concerned with developing and propagating globally appropriate and acceptable sustainability reporting guidelines and is the most widely used sustainability reporting standard worldwide (KPMG, 2017; Roca & Searcy, 2012). The period covered by the study is 2009 – 2018; thus, the prevailing GRI guidelines as at 2009 to 2018 are issued in the study; subsequent section discusses the population and sample of the study.

Population and Sample of the Study

There are total of twelve (12) listed oil and gas companies on the Nigerian Stock Exchange (NSE) from 1st January 2009 to 31st December 2018; these constitute the population of the study (Banerjee & Chaudhury, 2010). However, four of the companies violate the goal, assumptions, and context of this research (Asiamah, Mensah & Oteng-Abayie, 2017); thus, are removed leaving eight (8) companies. Conversely, there are seven (7) companies in the construction and building materials

industry with availability of online annual reports and accounts; therefore, one company is purposively excluded to get total of seven (7) companies. The Nigerian construction and building material industry in this study is composed of all listed companies engaged in all activities related to construction and manufacturing of building materials. There are total of 21 registered companies in the construction and building material sector of the Nigerian Stock Exchange (NSE) and is the population of the study. From the twenty-one (21) companies, the study could not access the online annual reports and accounts of fourteen (14) companies; thus, leaving only seven (7) companies (33.88%). These seven (7) companies account for N3.28trillion (96%) of the N3.42trillion market capitalization of the construction and building material sector; thus, purposively selected (Etikan, Musa and Alkassim, 2016). Therefore, seven (7) companies each from the Nigerian oil and gas and construction and building materials industries constitute the sample of the study; studies of this nature must have a blueprint of conducting it.

Theoretical Framework of the Study

Legitimacy theory posits that it is the society that allows corporate organizations to continue operating on the condition that they are complying with the expectations of the society (Deegan, 2007a). However, where an organisation is failing, a legitimacy gap may arise (Branco & Rodrigues, 2006) often accompanied with sanctions (Deegan & Rankin, 1996). Corporate organizations can adopt four methods of narrowing legitimacy gap with legitimacy conferring stakeholders such as creditors, shareholders, employees, host communities, customers etc. (Lindblom, 1994) including the use of social and environmental disclosures (Mohammed, et al 2020a; Kuruppu, Milne. & Tilt, 2019; Bani-Khalid & Ahmed, 2017; Mohammed, 2016; Cho & Patten, 2007, Craven & Shrides, 2003). Vulnerability depicts exposure to the possibility of being harmed either physically or emotionally while exploitability is the tendency to be exploited selfishly or unethically by someone (Oxford Dictionary, 2020). Emerging economies are blessed with exploitable attributes such as natural resources, large population living in abject poverty, low literacy, weak legal and regulatory frameworks and harmful stabilisation clauses in contracts (Belal, Cooper & Roberts, 2013; Mohammed, 2016; Saidu, 2014; Sikka, 2011). All these are exploitable by corporate organisations (Belal, Cooper & Roberts, 2013; Belal, Cooper & Khan, 2015; Hassan & Kouhy, 2015; Mohammed, 2016; Mohammed, et al., 2020c). Listed Nigerian oil and gas and construction and building materials

industries may be exploiting these vulnerabilities on their social and environmental accountability. Consequently, legitimacy theory and vulnerability and exploitability analytical framework underpin this study.

4. RESULTS AND DISCUSSIONS

This section presents results obtained from collected and analysed data in this study which aims to evaluate the social and environmental disclosure accountability of listed Nigerian oil and gas and construction and building materials industries. Numeric and graphical descriptive statistical tools are employed in presenting the results; likewise, results of t-test that verified the significant statistical differences in the mean of disclosure between the two industries are also presented. Table I compares annual total disclosed words 2009 to 2018 against economic and social and environmental disclosed words.

Table 1

Comparison of Total Disclosed Words and Social and Environmental Words

Years	Oil & Gas Industry				Construction and Build Materials Industry			
	Total Words	Economic Words	SED Words	% of SED from TW	Total Words	Economic Words	SED Words	% of SED from TW
2009	127,774	113,208	14,566	11	103,093	97,921	5,192	5
2010	128,915	112,429	16,486	13	111,826	107,255	4,571	4
2011	138,161	122,319	15,842	11	155,033	147,154	7,879	5
2012	214,919	197,904	17,015	8	234,097	221,076	13,021	6
2013	231,851	211,693	20,158	9	231,469	220,819	10,650	5
2014	206,790	195,509	11,281	5	274,197	260,836	13,361	5
2015	244,920	229,894	15,026	6	295,216	282,253	12,963	4
2016	270,974	256,575	14,399	5	310,992	298,586	12,406	4

2017	294,820	277,696	17,124	6	327,932	313,656	14,276	4
2018	364,824	346,102	18,722	5	349,892	340,917	8,975	3
Total	2,223,948	2,063,329	160,619	7	2,393,747	2,290,473	103,294	4

TW = Total Words

Table I indicated that listed Oil and Gas (O&G) companies' results presented on the left-hand side of the Table disclosed total of 2,223,948 words in their annual reports and accounts 2009-2018. Conversely, social and environmental disclosed words are only 160,619 representing 7% of the total disclosed words while the other 97% or 2,063,329 words are on economic disclosure. Results of listed Construction and Building Materials (C&BM) companies on the right-hand side of the Table in light blue showed that sampled companies disclosed total of 2,393,747 words in their ten years annual reports and accounts. However, sampled companies in the industry disclosed only 103,294 words or 4% of their total disclosure on social and environmental issues while the remaining 96% or 2,290,473 words are devoted to economic disclosure. Comparing results from the two industries, C&BM provided total of 2,393,747 words which is higher than total words disclosed by the O&G industry by 169,799 words or 7% of C&BM total disclosure. Notwithstanding the higher volume of total disclosure by the C&BM industry, the O&G industry provided 57,325 more social and environmental words than the C&BM. This result is consistent with Behrem (2015) that reported sampled oil and gas companies providing 100% of disclosure to be the first among the sampled companies in Turkey. It is also consistent with Oba & Fodio (2012) that found Nigerian oil and gas companies providing better disclosure level than the construction industry.

The Nigerian O&G as the main stay of the nations' socio-economic development is no doubt having numerous legitimacies conferring stakeholders. Similarly, activities of the industry are certainly under public scrutiny and pressure nationally and internationally; therefore, this may perhaps explain the higher level of social and environmental disclosure than C&BM industry. Likewise, the disclosure focused mainly on social issues relevant to employees and on the overall, the volume of the disclosure could be regarded as very low as only 7.22% of the total disclosed words is devoted to social and environmental accountability. Therefore, with the apparent

low disclosure focusing on social issues relating to employees and board of directors, the pattern of the disclosure is better explained by legitimacy theory since these are legitimacy conferring stakeholders. This is in consistence with previous findings that reported legitimacy theory as explaining social and environmental disclosure (Akparhuere, 2019; Zhang, 2018; Welbeck, Owusu, Bekoe, & Kusi, 2017). However, the results contradict Behram (2015) that fail to explain patterns of environmental disclosure by sampled Turkish companies, perhaps due to differences in economic development between Nigeria and Turkey. Similarly, the very low level of social and environmental disclosure despite numerous social issues such as impacts on host communities and environmental problems of gas flaring, oil spillage, destruction of biodiversity indicates exploitation of vulnerable stakeholders interested in environmental disclosure which could be explained by vulnerability and exploitability analytical framework (Mohammed, et al., 2020c). Table II is breakdown of the social and environmental disclosure into social and environmental components.

Table 2
SED Broken Down into Social and Environmental Components

Years	Oil and Gas Industry		Construction and Building Materials Industry		SED	Social and Environmental Disclosure as % of SED		
	SED	Social	Social Disclosure as % of SED	Environmental		Social	Environmental	
2009	14,566	14,399	82	167	5,192	4,246	99	946
2010	16,486	16,324	89	162	4,571	4,085	99	468
2011	15,842	15,677	68	165	7,879	5,326	99	2,571
2012	17,015	16,446	70	569	13,021	9,091	97	3,930
2013	20,158	19,335	89	823	10,650	9,505	96	1,145
2014	11,281	10,474	93	807	13,361	12,426	93	935
2015	15,026	13,602	89	1,424	12,963	11,489	91	1,474
2016	14,399	13,035	92	1,364	12,406	11,424	91	982
2017	17,124	15,685	98	1,439	14,276	13,951	92	325
2018	18,722	17,964	91	758	8,975	8,175	96	800
Total	160,619	152,941	95	7,678	103,294	89,718	87	13,576

SED = Social and Environmental Disclosure

From results in Table 2 it could be seen that social and environmental disclosure by Nigerian O&G companies over the period of the study is dominated by social disclosure accounting for 152,941 words or 95% of the total 160,619 SED words. Conversely, environmental disclosure has only 7,678 words or 5% of the total SED words disclosed 2009-2018. Total social and environmental disclosure by C&BM is also dominated by social disclosure accounting for 89,718 words or 87% of the total SED words while environmental disclosure has 13,576 words or 13% of total SED words. Therefore, sampled companies in the two industries are providing more social disclosure than environmental despite the prevalence of environmental impacts from the activities of the two industries. Below Figure I present the trends of the disclosure which is subsequently discussed within the light of theory and practice along with Table 2.

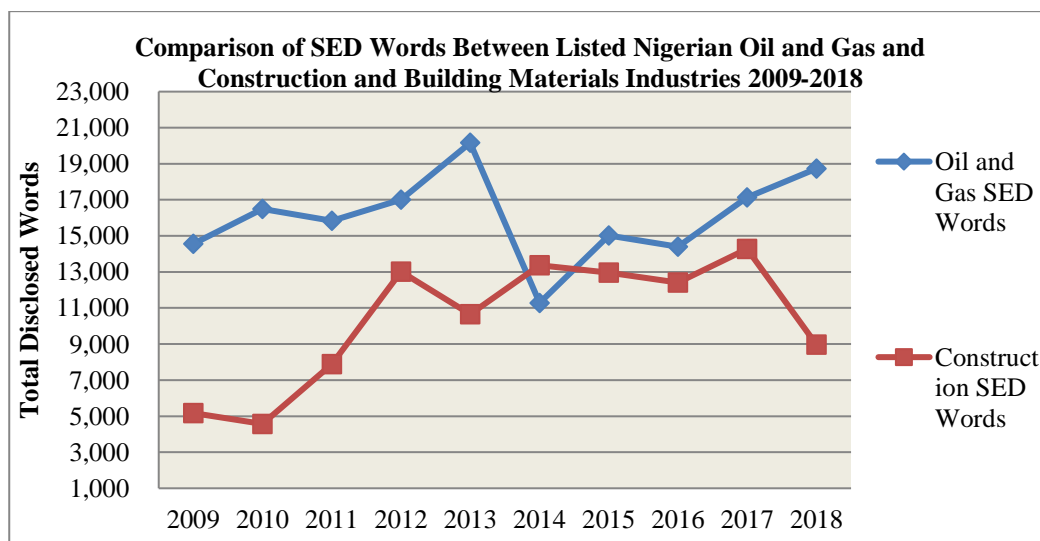


Figure I: Comparison of Disclosed SED Words between O&G and C&BM 2009-2018
SED = Social and Environmental Disclosed

Results from Figure I indicated the trends of social and environmental disclosure by listed Nigerian O&G and C&BM industries 2009-2018 to have better perspective on yearly trends of the disclosure and perhaps offer some explanations on the trends. The overall trends of social and environmental disclosure by both industries showed fluctuating trends although not in the same direction. While disclosure by O&G

increased in 2010 against 2009 consequent to more disclosure on issues relating employees and board members by some sampled companies, disclosure by C&BM fell down in 2010 against 2009 largely due to few disclosures on employee issues. Disclosure by O&G in 2011 fell down against 2010 due to reduced disclosure on employee diversity and equal opportunity, employment, training and education. Conversely, disclosure by C&BM increased in 2011 against 2010 due to more social disclosure. Disclosure by both industries increased in 2012 against 2011 which are accounted by disclosures on social issues. In 2013, while O&G disclosure increased significantly due to increase in disclosure on social issues, disclosure by C&BM decreased significantly due to low information on social issues. In 2014, disclosure by O&G industry decreased sharply below disclosure by C&BM which is the only year that this occurred which is again explained by low social disclosure.

Disclosure by the O&G companies increased in 2015 above disclosure by C&BM which is again due to improved volume of social information. Disclosure by O&G companies decreased in 2016 against 2015 but still higher than disclosure by C&BM which is again consequent to low volume of social information. Disclosure by O&G in 2017 increased significantly above 2016 disclosure volume and remains higher than disclosure by C&BM. In 2018, the volume of disclosure by O&G companies significantly improved which is still attributed to increased social disclosure volume, but disclosure by C&BM decreased sharply which is again due to low volume of social disclosure by sampled C&BM. Volume of disclosure broken into social and environmental components in Table II and trends of disclosure by O&G and C&BM companies in Figure I is depicting legitimacy theory as increase or decrease in disclosure are always due to fluctuations in social disclosures relating to social categories. These are primary stakeholders that can affect operations of the companies; thus, social disclosure is employed to portray their importance as a legitimacy tool. Similarly, disclosure on few social categories concerning only employees and members of board of directors is depicting the exploitation of other vulnerable stakeholders interested in disclosures concerning them such as host communities, agencies interested in anti-corruption issues etc.

Likewise, environmental disclosure is mainly on provision for decommissioning of assets which is a regulatory requirement by Nigerian Securities and Exchange Commission (NSEC). Therefore, it could be contended that disclosure on this

environmental issue is perhaps to satisfy the regulatory requirement to maintain legitimacy with the regulator. Likewise, disclosure on only this environmental issue is portraying the exploitation of vulnerable stakeholders interested in such other environmental issues as carbon emissions, biodiversity and ecosystem, oil spillage, discharge of wastes and effluents etc. To determine if there is statistically significant difference between the two groups based on their sample statistical means or that the differences are by chance, t-test for two samples is conducted (Mohammed, 2016; Ha & Ha, 2012); thus, the study hypothesize that:

H₀: The means of the two groups are equal

Table 3
Results of Two Sample t-Tests Statistically Ascertain Differences between the Mean of the Two Groups (O&G and C&BM)

t-Test: Two-Sample Assuming Equal Variances		
	O&G	C&BM
Mean	16061.9	10327.4
Variance	6116876	12328736.27
Observations	10	10
Pooled Variance	9222806	
Hypothesized Mean Difference	0	
df	18	
t Stat	4.222299	
P(T<=t) two-tail	***0.000512	
t Critical two-tail	2.100922	

Results from Table 3 reveal that the *p-value* of 0.000512 is significant at both 0.01 and 0.05 significance levels. Thus, following the applicable rule stating that if the *p-value* is less than chosen significance level rejects the null hypothesis, *p-value* of 0.000512 leads to the rejection of the null hypothesis. Hence, we do not accept that means of the two groups are the same. The *p-value* of 0.000512 is indicating that difference between the two means is statistically significant and has provided strong evidence to conclude that means of the two groups are different. This result is

consistent with Oba and Fodio (2012) and Uwalomwa and Uadiale (2011) that found significant differences between the mean of disclosure by oil and gas and construction industries and Building material and Brewery respectively. Having presented and discussed the results of the study in this section; subsequent section is on conclusion of the study.

5. CONCLUSION

This study evaluated the social and environmental accountability of Nigerian Oil and Gas and Construction and Building Materials industries by determining volume of disclosure obtained by words counts content analysis. Results from the study revealed that Nigeria oil and gas industry provided more social and environmental words than Nigerian construction and building materials industry. Therefore, it could be concluded that Nigerian oil and gas industry provided more social and environmental accountability than Nigerian Construction and building materials industry. However, both industries disclosed fewer words on social and environmental issues when compared with total disclosed words; thus, majority of the disclosed words pertains to stakeholders interested in economic issues. Consequently, it could be concluded that both industries are more interested in discharging economic accountability than social and environmental accountability.

On the social and environmental accountability, the two industries focused on providing social information relating to employees and board of directors; thereby discharging accountability to only these legitimacy conferring stakeholders. With emphasis on only employees and board of directors, the disclosure is certainly ignoring other stakeholders that perhaps are interested in disclosure relating to them such as host communities. From these perspectives, social disclosures by the two industries are better explained by legitimacy theory and vulnerability and exploitability analytical framework. The environmental disclosure is also few and mainly on decommissioning of assets which is perhaps to maintain legitimacy with regulatory agency the Nigerian Securities and Exchange Commission; thus, a legitimacy tool. Environmental disclosure on only decommissioning of assets ignoring such issues as gas flaring, effluents and wastes, oil spillage is an indication of exploiting the vulnerabilities of stakeholders interested in the environment; thus, it could be concluded that legitimacy theory and vulnerability and exploitability analytical framework better explain environmental disclosure by the two industries.

With these results, the study is calling for more studies on the social and environmental accountability by listed Nigerian oil and gas in particular and listed companies in other sectors. Results from such studies may push government and corporate policy makers to pay more attention to the society and the environment which may contribute to sustainable development. This study is carried out for ten years; other studies could extend it to cover longer period of time, employ other techniques of data collection and analysis, employ different theoretical frameworks or include samples from more industries. This may assist in obtaining better insight into corporate social and environmental accountability by listed companies in Nigeria.

REFERENCES

- Ahmed, A., & Rahman, F. (2015). Assessing major Environmental hazards of Construction projects in Dhaka city, 2nd International conference on Innovative Engineering Technologies (ICIET'2015) August 7-8, 2015 Bangkok (Thailand), 68-73.
- Akinkulore, O. O. & Franklin, S. O. (2005). Investigation into Waste Management on Construction Sites in South Western Nigeria. *American Journal of Applied Sciences*, 2(5), 980-984.
- Akintoye, A. (2019). Developing Theoretical and Conceptual Frameworks, EDMIC 2015 Research Workshop, OAU, Ile Ife, Nigeria. Retrieved 22/12/2019 from https://jedm.oauife.edu.ng/wp-content/uploads/2017/03/Akintola-Akintoye_Developing-Theoretical-and-Conceptual-Frameworks.pdf
- Akparhuere, G.O. (2019). Environment Reporting in Annual Reports: A Comparative Analysis of Reporting Practices of Listed Firms in Nigeria. *Archives of Business Research*, 7(2), 183-206.
- Allen, F. (2012). The Enemy Within: Oil in the Niger Delta. *World Policy Journal*, 29(4), 46-53.
- Ametepey, S. O., & Ansah, S. K. (2015). Impacts of Construction Activities on the Environment: The Case of Ghana. *Environmental Earth Science*, 5(3), 18-26.

- Asiamah, N., Mensah, H.K., & Oteng-Abayie, E.F. (2017). General, Target, and Accessible Population: Demystifying the Concepts for Effective Sampling. *The Qualitative Report*, 22(6), 1607-1622.
- Babatunde, S. O. (2012). Quantitative Assessment of Construction Materials Wastage in the Nigerian Construction Sites. *Journal of Emerging Trends in Economics and Management Science*, 3(3), 238-241.
- Babbie, E. (2013). *The Practice of Social Research*. 13 ed. ed. New York, USA: Macmillan.
- Banerjee, A., & Chaudhury, S. (2010). Statistics without tears: Populations and samples. *Industrial Psychiatry Journal*, 19(1), 60-65.
- Bani-Khalid, T.O. & Ahmed, A.H. (2017): Corporate Social Responsibility (CSR): A Conceptual and Theoretical Shift. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(1), 203-2012.
- Behram, N.K (2015). A Cross-Sectoral Analysis of Environmental Disclosures in a Legitimacy Theory Context. *Journal of Management and Sustainability*, 5(1), 20-37.
- Belal, A. & Lubinin, V. (2009). Russia: Corporate social disclosures. In: S. O. Idowu and W. L. Filho. eds. *Global practices of corporate social responsibility*. Germany: SpringerVerlag Berlin Heidelberg, 165-179.
- Belal, A. R., Cooper, S. & Khan, N. A. (2015): Corporate environmental responsibility and accountability: What chance in vulnerable Bangladesh? *Critical Perspectives on Accounting*, 33, 44-58.
- Belal, A. R., Cooper, S. M. & Roberts, R. W. (2013). Vulnerable and exploitable: The need for organizational accountability and transparency in emerging and less developed economies. *Accounting Forum*, 37(2), 81-91.
- Berelson, B. (1952). *Content analysis in communication research*. Gelencoe, IL, Free Press.
- Betts, M., Robinson, G., Burton, C., Leonard, J., Sharda, A., & Whittington, T. (2015): *Global Construction 2030: A Global Forecast of the Construction*

- Industry. Retrieved 25/01/2020 from https://policy.ciob.org/wpcontent/uploads/2016/06/GlobalConstruction2030ExecutiveSummary_CIOB.pdf
- BP. (2020). Statistical Review of World Energy 2020. Retrieved 2/10/2020 from <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>
- Branco, M. C. & Rodrigues, L. L. (2008). Factors influencing social responsibility disclosure by Portuguese companies. *Journal of Business Ethics*, 83(4), 685-701.
- Campbell, D., Craven, B. & Shrive, P. (2003). Voluntary social reporting in three FTSE sectors: A comment on perception and legitimacy. *Accounting, Auditing & Accountability Journal*. 16(4), 558-581.
- Central Bank of Nigeria (2014): Annual Reports and Accounts of the Central Bank of Nigeria. Online, available from [https://www.cbn.gov.ng/Out/2016/RSD/Annual %20 Report.pdf](https://www.cbn.gov.ng/Out/2016/RSD/Annual%20Report.pdf) [Accessed 26 January 2020].
- Central Bank of Nigeria (2015): Annual Reports and Accounts of the Central Bank of Nigeria. Online, available from <https://www.cbn.gov.ng/Out/2016/RSD/Annual%20Report.pdf> [Accessed 31 December 2019].
- Central Bank of Nigeria. (2010): Annual Reports and Accounts of the Central Bank of Nigeria. Retrieved 26/01/2020 from [https://www.cbn.gov.ng /OUT/2011/PUBLICATIONS /REPORTS /RSD/AR2010/Link%20Files/Part% 20 2.pdf](https://www.cbn.gov.ng/OUT/2011/PUBLICATIONS /REPORTS /RSD/AR2010/Link%20Files/Part% 20 2.pdf)
- Central Bank of Nigeria. (2011): Annual Reports and Accounts of the Central Bank of Nigeria, online. Retrieved 26/01/2020 from [https://www.cbn.gov.ng/Out/2012/ publications /reports /rsd /arp-2011/2011%20 Annual%20 Report_ Complete %20 Report.pdf](https://www.cbn.gov.ng/Out/2012/publications /reports /rsd /arp-2011/2011%20 Annual%20 Report_ Complete %20 Report.pdf).
- Central Bank of Nigeria. (2013). Annual Reports and Accounts of the Central Bank of Nigeria. Retrieved 26/01/2020 from <https://www.cbn.gov.ng/Out/2015/RSD/ CBN%202013%20Annual%20 Report.pdf>.

- Central Bank of Nigeria. (2016). Annual Reports and Accounts of the Central Bank of Nigeria. Retrieved 26/01/2020 from https://www.cbn.gov.ng/Out/2018/RSD/CBN%202016%20ANNUAL%20REPORT_WEB.pdf.
- Central Bank of Nigeria. (2017). Annual Reports and Accounts of the Central Bank of Nigeria Retrieved 26/01/2020 from https://www.cbn.gov.ng/Out/2018/RSD/CBN%202017%20ANNUAL%20REPORT_WEB.pdf.
- Central Bank of Nigeria. (2018). Annual Reports and Accounts of the Central Bank of Nigeria. Retrieved 26/01/2020 from <https://www.cbn.gov.ng/Out/2019/RSD/2018%20AR%20KAMA1.pdf>.
- Central Bank of Nigeria. (2019). Statistical Bulletins. Retrieved 2/10/2020 from <https://www.cbn.gov.ng/documents/Statbulletin.asp>.
- Central Bank of Nigeria. (2019e). Statistical Bulletins, Public finances. Retrieved 26/01/2020 from <https://www.cbn.gov.ng/documents/Statbulletin.asp>.
- Cho, C.H. & Patten, D. (2007). The Role of Environmental Disclosure as Tools of Legitimacy: A Research Note. *Accounting Organisation and Society*, 32(7), 639-647.
- Collis, J. & Hussey, R. (2014). Business research: A practical guide for undergraduate & postgraduate students. (4th ed. UK: Basingstoke: Palgrave Macmillan 2014).
- Deegan, C. & Goordon, B. (1996). A Study of the Environmental Disclosure Practices of Australian Corporations. *Accounting and Business Research*, 26(3): 187-199.
- Deegan, C. & Rankin, M. (1996). Do Australian Companies Report Environmental News Objectively? An Analysis of Environmental Disclosures by Firms Prosecuted Successfully by the Environmental Protection Authority. *Accounting, Auditing and Accountability Journal*, 9(2), 50-67.
- Deegan, C. M. (2007). Financial accounting theory. 2nd ed ed. Australia: McGraw-Hill.
- Dixon, W. (2010). The Impacts of Construction and the Built Environment. Retrieved 2/10/2020 from

<https://www.google.com/search?client=opera&q=The+Impacts+of+Construction+and+the+Built+Environment&sourceid=opera&ie=UTF-8&oe=UTF-8>.

- Ebegbulem, J. C., Ekpe, D. & Adejumo, T. O. (2013). Oil Exploration and Poverty in the Niger Delta Region of Nigeria: A Critical Analysis. *International Journal of Business and Social Science*, 4(3), 279-287.
- EIA (2018): What is Energy? Retrieved 26/01/2020 from <https://www.eia.gov/energyexplained/what-is-energy/#:~:text=Energy%20is%20the%20ability%20to%20do%20work&text=People%20use%20energy%20to%20walk,to%20send%20astronauts%20into%20space>.
- Ejiofor, N., Uchechi, A. A., & Ndidi, I (2018). Impact of Sustainable Construction on Environmental and Health Risk in Nigerian Construction Industry. *Journal of Civil, Construction and Environmental Engineering*, 3(4), 99-105.
- Enshassi, A., Kochendoerfer, B., and Rizq, E. (2014). An evaluation of environmental impacts of construction projects, *Revista Ingeniería de Construcción*, 29(3), 234-254.
- Etikan, I., Musa, S.A. & Alkassim, R.S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4.
- Eze, E. C., Seghosime, R., Eyong, O. P., & Loya, O.S. (2017). Assessment of materials waste in the construction industry: A view of Construction Operatives, Tradesmen and Artisans in Nigeria, *International Journal of Engineering and Science*, 6(4), 32-47.
- Fulton, S. & Krainovich-Miller, B. (2010). Gathering and Appraising the Literature. In LoBiondo-Wood G, Haber J (Eds) *Nursing Research: Methods and Critical Appraisal for Evidence Based Practice*. (Seventh Edition. Mosby Elsevier, Missouri, 56 – 84).
- Fulton, S. & Krainovich-Miller, B. (2010). Gathering and Appraising the Literature. In LoBiondo-Wood G, Haber J (Eds) *Nursing Research: Methods and*

- Critical Appraisal for Evidence Based Practice. (Seventh Edition. Mosby Elsevier, Missouri, 2010, 56 – 84).
- García-Ayuso, M. & Larrinaga, C. (2003). Environmental disclosure in Spain: corporate characteristics and media exposure. *Spanish Journal of Finance and Accounting*, 115, 184-214.
- Garg, T. & Gokavaparu, S. (2012). Lessons learnt from root cause of analysis of gulf of mexico spill 2010. In: Society of Petroleum Engineers Kuwait International Petroleum Conference and Exhibition, 10 - 12 Decenber 2012. *Kuwait: Society of Petroleum Engineers*, 1-11.
- Global Data. (2018). Global Construction Outlook to 2022: Q3 2018 Update. Retrieved 25/01/2020 from <https://store.globaldata.com/report/gdcn0010go-global-construction-outlook-to-2022-q3-2018-update/>.
- Gray, R., Kouhy, R. & Lavers, S. (1995b). Methodological themes constructing a research database of social and environmental reporting by UK companies. *Accounting, Auditing Accounting Journal*, 8(2), 78-101.
- Ha, R. R. & Ha, J. C. (2012). Integrative statistics for the social and behavioral sciences. USA: Thousand Oaks, Sage Publications.
- Hackston, D. & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing and Accounting Journal*, 9(1), 77-108.
- Hackston, D. & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing and Accountability Journal*, 9(1), 77-108.
- Hadi, A. (2015). Environmental Injustice in Pakistan: Impacts of Upstream Dams on Indus Delta and its Inhabitants. *Academic Journal of Interdisciplinary Studies*. 4(1), 11-16.
- Hamil, S. (1999). Corporate Community Involvement: a case for regulatory reform. *Business Ethics: A European Review*, 8(1), 14–25. <https://doi.org/10.1111/1467-8608.00121>

- Hanafi, R. A. (2006). An exploration of corporate social and environmental disclosure in Egypt and the UK: A comparative study. PhD. University of Glasgow.
- Handayati, P., Soetjipto, B.E., & Alhaleh, S.E.A. (2018). Comparative Study Level of CSR Compliance in the Cement Industry Sector, Mining Sector and Banking Sector in Indonesia. The 2018 International Conference of Organizational Innovation Volume 2018
- Hassan, A. & Kouhy, R. (2015). From environmentalism to corporate environmental accountability in the Nigerian petroleum industry: Do green stakeholders matter? *International Journal of Energy Sector Management*, 9(2), 204-226.
- Hassan, A. (2012). Corporate Environmental Accountability in the Nigerian Oil and Gas Industry: The Case of Gas Flaring. PhD. Abertay University.
- Hassan, M. K. (2012). A disclosure index to measure the extent of corporate governance reporting by UAE listed corporations. *Journal of Financial Reporting and Accounting*, 10(1), 4-33.
- Hassard, J. (1991). Multiple paradigms and organizational analysis: A case study. *Organization Studies*, 12(2), 275-299.
- Henderson, R. M., Reinert, S. A., & Oseguera, M. (2020). Climate Change in 2020: Implications for Business. Retrieved 2/10/2020 from https://www.alumni.hbs.edu/Documents/events/Climate_Change_in_2020_Implications_in_Business.pdf.
- IFC, (2018). Construction Industry Value Chain How Companies Are Using Carbon Pricing to Address Climate Risk and Find New Opportunities. Retrieved 29/09/2020 from <http://documents1.worldbank.org/curated/en/240371544174022564/pdf/132770-WP-Construction-Industry-Value-Chain-PUBLIC.pdf>.
- International Energy Agency. (2013). Key World Energy Statistics, online. Retrieved 2/10/2020 from https://energiatalgud.ee/img_auth.php/e/ef/IEA.Key_World_Energy_Statistics_2013.pdf.

- International Energy Agency. (2020). Key World Energy Statistics. Retrieved 2/10/2020 from <https://www.iea.org/reports/key-world-energy-statistics-2020>.
- IRENA. (2018). Global Energy Transformation: A Road Map to 2050. Retrieved 26/01/2020 from [https://www.irena.org/publications/2018/Apr/Global-Energy-Transition-A-Roadmap-to-2050#:~:text=Global%20Energy%20Transformation%3A%20A%20Roadmap%20to%202050%20\(2018%20edition\),-April%202018&text=Renewable%20energy%20needs%20to%20be,Transformation%3A%20A%20Roadmap%20to%202050](https://www.irena.org/publications/2018/Apr/Global-Energy-Transition-A-Roadmap-to-2050#:~:text=Global%20Energy%20Transformation%3A%20A%20Roadmap%20to%202050%20(2018%20edition),-April%202018&text=Renewable%20energy%20needs%20to%20be,Transformation%3A%20A%20Roadmap%20to%202050).
- Jessop, A., Wilson, N., Bardecki, M., & Searcy, C. (2019). Corporate Environmental Disclosure in India: An Analysis of Multinational and Domestic Agrochemical Corporations. *Sustainability*, 11(4843), 1-33.
- Johnson, B. & Christensen, L. (2010). Research paradigm. In: Anon. Educational research: Quantitative, qualitative, and mixed methods. 4th ed. United Kingdom: Sage Publications. 33-55.
- Kivunja, C. (2018). Distinguishing between Theory, Theoretical Framework, and Conceptual Framework: A Systematic Review of Lessons from the Field. *International Journal of Higher Education*, 7(6), 44-53.
- Kivunja, C. (2018). Distinguishing between Theory, Theoretical Framework, and Conceptual Framework: A Systematic Review of Lessons from the Field. *International Journal of Higher Education*, 7(6), 44-53.
- Kondracki, N. I., Wellman, N. S. & Amundson, D. R. (2002). Content Analysis: Review of Methods and their Applications in Nutrition Education. *Journal of Nutrition Education and Behaviour*, 34(4), 224-230.
- KPMG. (2017). International Survey of Corporate Sustainability Reporting 2017. Retrieved 20/01/2020 from <https://assets.kpmg/content/dam/kpmg/xx/pdf/2017/10/kpmg-survey-of-corporate-responsibility-reporting2017.pdf>.
- Krippendorff, K. (1980). Content analysis: An introduction to its methodology. Newbury Park: Sage Publications.

- Krippendorff, K. (2012). Content analysis: An introduction to its methodology. Thousand Oaks: Sage.
- Kuruppu, S.C., Milne, M.J. & Tilt, C.A. (2019). Gaining, maintaining and repairing organisational legitimacy: When to report and when not to report. *Accounting, Auditing & Accountability Journal*, 32(7), 2062-2087.
- Laughlin, R. (1995). Methodological themes Empirical research in accounting: alternative approaches and a case for “middlerange” thinking. *Accounting, Auditing and Accountability Journal*, 8(1), 63- 87.
- Lindblom, C.K. (1994). The implications of organizational legitimacy for corporate social performance and disclosure. In: Critical Perspectives on Accounting Conference 1994. New York, NY.
- Lungu, C. I., Caraiani, C. & Dascălu, C. (2011a). Research on Corporate Social Responsibility Reporting. *Corporate Social Responsibility*, 13(29), 117-131.
- Mohammed, S. D., Yusuf A. G., Bashir, A. S., Aishatu D. A. & Muhammad, M. S. (2020a). An Evaluation of Corporate Social and Environmental Accountability by Listed Nigerian Construction and Building Materials Companies. *International Journal of Advanced Research*, 8(03), 21-35.
- Mohammed, S. D., Aishatu, D. A., Muhammad, M. S., Yusuf, A. G. & Bashir, A. S. (2020c). A Longitudinal Study of the Social and Environmental Accountability Practices of Listed Nigerian Oil and Gas Companies, *International Journal of Advanced Research*, 8(04), 477-492.
- Mohammed, S. D., Abubakar, M. A., Ahmed, I. M., Garba, S, & Bashir A. S. (2020e). Nigerian Pharmaceutical Industry: An Evaluation of Social and Environmental Accountability. *American International Journal of Business Management*, 3(7), 135-151.
- Mohammed, S.D. (2016). Social and Environmental Disclosures: A Comparative Analysis of Listed Nigerian and UK Oil and Gas Companies, PhD Thesis, University of Abertay, Dundee United Kingdom.
- Mohammed, S.D. (2018). Mandatory Social and Environmental Disclosure: A Performance Evaluation of Listed Nigerian Oil and Gas Companies Pre- and

- Post-Mandatory Disclosure Requirements. *Journal of Finance and Accounting*, 6(2), 56-68.
- Morgan, D. L. (1993). Qualitative content analysis: A guide to paths not take. *Qual Health Res.*, 3: 112-121.
- Oba, V.C. & Fodio, M.I. (2012). Comparative Analysis of Environmental Disclosures in Oil and Gas and Construction Industries in Nigeria. *Journal of Sustainable Development in Africa*, 14(6), 19-28.
- Ogunmakinde, O.E., Sher, W., & Maund, K. (2019). An Assessment of Material Waste Disposal Methods in the Nigerian Construction Industry, *Recycling*, 4(13), 2-15.
- Osuoka, A. & Roderick, P. (2005). Gas flaring in Nigeria: A human rights, environmental and economic monstrosity. 11672- UNI Nigeria. Amsterdam, Netherlands: friends of the Earth/International climate Justice Program. Retrieved 2/10/2020 from <https://www.foei.org/wp-content/uploads/2014/04/gasnigeria.pdf>.
- Out, U.A., Ejovwokeoghene, I.M., Morenike, A.T. (2016). Corporate Social Responsibility and Firm Performance: A Study of Listed Firms in Nigeria. A paper to be presented at ICAN 2nd Annual International Academic Conference on Accounting and Finance, at Lagos Airport Hotel, Ikeja on 18th to 20th May, 2016.
- Oxford Dictionary. (2020). Meaning of Vulnerability. Retrieved 26/01/2020 from <https://www.google.com/search?client=opera&q=vulnerability+oxford+dictionary&sourceid=opera&ie=UTF-8&oe=UTF-8>.
- Paul, M. (2006). The industrial revolution of the eighteenth century: An outline of the beginning of the modern factory system in England. 1st ed. Oxon: Routledge.
- Phoprachak, D., & Buntornwon, T. (2020). Influence of Firm Size on the Environmental Disclosure and Performance of the Listed Companies on the Stock Exchange of Thailand. In Samuel O. Idowu and R. Schmidpeter (Eds.), *In Responsible Business in a Changing World, CSR, Sustainability, Ethics & Governance* (pp. 159–170). https://doi.org/10.1007/978-3-030-36970-5_1

- Prakash, P. & Rappaport, A. (1977). Information inductance and its significance for accounting. *Accounting, Organizations and Society*, 2(1), 29–38. [https://doi.org/10.1016/0361-3682\(77\)90005-8](https://doi.org/10.1016/0361-3682(77)90005-8).
- Rajat, P., Rinne, T., Hansen, E., & Juslin, H.(2006). Corporate Responsibility: Balancing Economic, Environmental, and Social Issues in the Forest Industry. *Forest Products Journal*. 56(2), 4-12.
- Robert, P.L. (1998). Deepwater environmental concerns. In: 1998 Offshore Technology Conference Held in Houston, Texas, 4-7 May 1998 1998. USA: *Offshore Technology Conference*, (), 281- 286.
- Roca, L. & Searcy, C. (2012). An analysis of indicators disclosed in corporate sustainability reports. *Cleaner Production*, 20(1), 103-118.
- Ross, M. L. (2008). Oil, Islam and Women. *American Political Science Review*. 102(1), 107-123.
- Saidu, S. (2014). A Comparative Analysis of Production Sharing Contracts of Selected Developing Countries: Nigeria, Indonesia, Malaysia and Equatorial Guinea. *Journal of Finance and Accounting*, 2(2), 34-40.
- Schilling, D.R. (2013). Global Construction Expected to Increase by \$4.8 Trillion by 2020. Retrieved 25/01/2020 from <https://www.industrytap.com/global-construction-expected-to-increase-by-4-8-trillion-by-2020/1483> [Accessed 25 January 2020].
- Sikka, P. (2011). Accounting for human rights: The challenge of globalization and foreign investment agreements. *Critical Perspectives on Accounting*, 22(8), 811-827.
- SnethKamp, P. & Macklin, S. (2004). Key questions in managing social issues in oil and gas projects. In: Seventh Society of Petroleum Engineers International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production Held in Calgary, Alberta, Canada, 29 - 31 March 2004. *Canada: Society of Petroleum Engineers*, 1-3.

- Stocker, T.F. (2014). *Climate Change 2013 the Physical Science Basis: Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press.
- Tol, R.S. (2009). The economic effects of climate change. *Journal of Economic Perspectives*, 23(2), 29-51.
- Udo, U.E., Usip, E.E., & Asuquo, C.F. (2016). Effect of Lack of Adequate Attention to Safety Measures on Construction Sites in Akwa Ibom State, Nigeria, *Journal of Earth Sciences and Geotechnical Engineering*, 6(1), 113-121.
- Ugochukwu, C. N. C. & Ertel, J. (2008). Negative impacts of oil exploration on biodiversity management in the Niger Delta area of Nigeria. *Impact Assessment and Project Appraisal*, 26(2), 139-147.
- United Nations Environment Programme. (2019). 2019 Global Status Report for Buildings and Construction: Towards a zero-emissions, efficient and resilient buildings and construction sector. Retrieved 20/01/2020 from <https://www.worldgbc.org/sites/default/files/2019%20Global%20Status%20Report%20for%20Buildings%20and%20Construction.pdf>.
- Uwalomwa, U. & Uadiale, O.M. (2011). Corporate Social and Environmental Disclosure in Nigeria: A Comparative Study of the Building Material and Brewery Industry. *International Journal of Business and Management*, 6(2), 258-264.
- Wahab, B. & Lawal, A. F. (2011). An evaluation of waste control measures in construction industry in Nigeria. *African Journal of Environment Science and Technology*, 5(3), 246-254.
- Wasara, T.M., & Ganda, F. (2019). The Relationship between Corporate Sustainability Disclosure and Firm Financial Performance in Johannesburg Stock Exchange (JSE) Listed Mining Companies. *Sustainability*, 11(4496), 1-23.
- Weber, R. P. (1990). *Basic Content Analysis*. London: Sage, Publications.
- WEC. (2020). *World Energy Scenarios Composing Energy Futures to 2050*. Retrieved 2/10/2020 from

<https://www.worldenergy.org/publications/entry/world-energy-scenarios-composing-energy-futures-to-2050>.

- Welbeck, E.E., Owusu, G.M.Y., Bekoe, R.A., & Kusi, J.A. (2017). Determinants of environmental disclosures of listed firms in Ghana. *International Journal of Corporate Social Responsibility*, (), 2-12.
- Williams, S. M. (1999): Voluntary environmental and social accounting disclosure practices in the Asia-pacific region: an international empirical test of political economy theory. *The International Journal Accounting*, 34(2), 209-238.
- Wilmshurst, T. & Frost, G. (2000). Corporate environmental reporting – a test of legitimacy theory. *Accounting, Auditing and Accountability Journal*, 13(1), 10-26.
- Wolfe, R. A. (1991). The use of content analysis to assess corporate social responsibility. *Research on Corporate Social Performance and Policy*, 12(), 281-307.
- World Economic Forum. (2019). Future of Construction and Infrastructure. Retrieved 25/01/2020 from <https://www.weforum.org/projects/future-of-construction>.
- Yang, M., Bento, P. & Akbar, A. (2019). Does CSR Influence Firm Performance Indicators? Evidence from Chinese Pharmaceutical Enterprises, *Sustainability*, 11(5656), 1-18.
- Yang, M., Bento, P., & Akbar, A. (2019). Does CSR Influence Firm Performance Indicators? Evidence from Chinese Pharmaceutical Enterprises. *Sustainability*, 11(5656), 1-18.
- Zeghal, D. & Ahmed, S. A. (1990). Comparison of Social Responsibility Information Disclosure Media Used by Canadian Firms. *Accounting, Auditing and Accountability Journal*, 3(1), 38-53.
- Zhang, J. (2018). Determinants of Corporate Environmental and Social Disclosures in China: A Comparative Study within High-profile Industries. *Asian Journal of Finance & Accounting*, 10(1), 308-335.