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### RESEARCH ARTICLE

#### AN EVALUATION OF CORPORATE SOCIAL AND ENVIRONMENTAL ACCOUNTABILITY BY LISTED NIGERIAN CONSTRUCTION AND BUILDING MATERIALS COMPANIES

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#### Abstract

The Construction and Building Materials sector of the global economy has lots of adverse impacts which include depletion of natural resources, destruction of biodiversity, waste generation, noise and hazardous emissions that cause serious damages to environment and human beings among others. Indeed, the sector accounted for 36% of global final energy use and 39% of final energy related carbon emissions in 2018. However, the KPMG Survey on Corporate Responsibility (CSR) Reporting 2017 reported that the sector recorded 69% rate of corporate social responsibility reporting. This is a remarkable improvement on 1999 KPMG reporting which stated that the sector's contribution to CSR reporting is too small to make a statistically valid statement on. The aim of this paper is to evaluate the CSR reporting of this sector in a developing country Nigeria to see how the sector is accounting for its social and environmental activities. Secondary data on CSR reporting from the annual reports and accounts of sampled companies are collected while modified word content analysis was carried out to collect data on volume and themes of social and environmental disclosure. Descriptive statistics are utilized to present collected and analysed data while legitimacy theory underpinned the study.

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#### Introduction:-

Activities of corporate organisations in every sector of human life is associated with the utilization of natural resources that are converted into manufactured goods or means of delivering services (Paul 2006). Utilization of the earth natural resources are accompanied with lots of social and environmental negative effects which are becoming global concerns (Hassan 2019). Indeed, the environments of modern corporate organisations are surrounded by strong public scrutiny from diverse stakeholder groups (Chen and Wang 2011) calling on corporate organisations to account for not only their economic actions, but also the social and environmental implications of their activities. Thus, many corporations are today not only paying attention to the social and environmental needs of their stakeholders, but are communicating same to maintain positive and cohesive relationship with stakeholders as valuable intangible assets (Deegan, Rankin and Voght 2000, Chen and Wang 2011). This is popularly referred to as Corporate Social Responsibility (CSR) reports or Corporate Social and Environmental Disclosure (SED) consistent

with (Mohammed 2016), and corporate failure to integrate CSR principles and reporting into business practices exposes them to negative stakeholder perceptions, especially when bad news erupts (Spangler and Pompper 2011).

The Construction and Building material sector of the global economy is playing vital roles for governments in both developed and developing economies through creation of jobs, driving economic growth, and providing solutions to address social, climate and energy challenges (World Economic Forum 2020). The construction industry has important linkages with other sectors, so that its impact on GDP and economic development goes well beyond the direct contribution of construction activities. To be more specific, the industry's global output is estimated at US\$11.18 trillion in 2018 and this is expected to grow up to US\$17.50 by 2030 (Global data 2018, Betts et al 2015). This translates to over 14% of global Gross Domestic Product (GDP) which is expected to reach 15% by 2020 (Schilling 2019).

Thus, the global construction and building materials industry is clearly playing important role in global economic growth and development (World Economic Forum 2020) and will continue playing such role in the future (Global data 2018). This notwithstanding, the industry is on the other hand is a key contributor to causing global social and environmental negative effects resulting from its activities as the sector is reported to have used 36% of global final energy thereby contributing 39% of energy and process related Carbon Emissions (CO<sub>2</sub>) in 2018 (United Nations Environment Program 2019). Activities of the industry are also associated with air and water pollution, solid and liquid wastes, loss of habitats and ecosystem and noise among others (Ahmed and Rahman 2015, Ametepey and Ansah 2015, Dixon 2010). Such health social problems of respiratory system, liver, cancer, hearing impairment, hypertension, annoyance, sleep disturbance, and other cardiovascular adverse effects are also common in the construction industry (Enshassi et al 2014).

Despite above and more social and environmental negative effects of the industry, its social and environmental accountability to the society through CSR reporting is perhaps evolving having too small reporting rate impossible to make statistically valid statement on in 1999 (KPMG 1999). There was however improvement in 2002 as reporting rate reached 17% (KPMG 2002), increasing to 28% in 2005 (KPMG 2005) remaining constant at 28% in 2008 (KPMG 2008) and recording remarkable improvement to 39% in 2011 (KPMG 2011). The industry continued to record progress on reporting rate accounting for 66% in 2013 (KPMG 2013) increasing to 72% in 2015 (KPMG 2015) then sliding down to 69% in 2017 (KPMG 2017). Therefore, the global construction and building materials industry has recorded remarkable progress in its social and environmental reporting over the last two decades (KPMG 2017). Nigeria's construction and building material sector is ranked one of the eighth globally following China, United States of America (USA), India, Indonesia, United Kingdom (UK), Mexico and Canada that will account for 70% of global construction industry growth by 2030. Projected to witness significant population growth, Lagos, one of the country's cities is set to not only become the largest city in Africa by 2030 but emerge as a global mega city (Betts et al 2015).

Nigeria's construction and building materials industry has been making contributions to the country's economic development contributing 0.2 percentage of its GDP in 2009, 2010 and 2011; increasing to 0.5 percent in 2013 and 2014; to 4.40 percent in 2015; then, sliding down to 3.70 percent in 2016; further decreasing to 0.04 percent in 2017 and to 0.1 percent in 2018 (CBN 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2017 and 2018). However, activities of the industry in consistent with reported negative social and environmental effects of the global industry is associated with lots of negative effects such as wastes (Ogunmakinde et al 2019, Eze et al 2017, Babatunde 2012, Wahab and Lawal 2011, Akinkurolere and Franklin 2005). On site accidents often resulting into injuries and fatalities, hearing loss, skin irritation and rashes, cumulative trauma disorders, lifetime disability are also identified problems in the Nigerian construction industry (Ejiofor et al 2018, Udo et al 2016).

Therefore, the aim of this study is to evaluate the social and environmental accountability of listed companies in the Nigerian construction and building materials industry by achieving two objectives. One; ascertain quantity of the disclosure which is signifying the importance of these issues in the industry (Krippendorff 1980). Two, ascertain the consistency of disclosed themes with prevailing social and environmental problems in the industry. To achieve the aim and objectives of the study, data is collected from the Annual Reports and Accounts of sampled listed companies in the Nigerian Stock Exchange (NSE) from the construction/real estate and industrial goods sectors 2009 – 2018 using modified word counts content analysis. Descriptive statistics is utilized to present collected and analysed data while legitimacy theory underpins the study. However, it is important to note that prior studies were conducted on the social and environmental disclosure practices of construction companies in developed economies

such as United Kingdom (see Evangelinos et al 2016, Brown 2012, Martinuzzi et al 2011, Brown, Parry and Moon 2009); Australia (see Lim and Loosemore 2017, Galea et al 2015, Lingard, et al 2009, Petrovic-Lazarevic 2008, Lingard et al 2012). Similarly studies were conducted in emerging and developing economies such as China (Wang et al 2019, Chang et al 2018, Lin et al 2017, Zhao et al 2016); Brazil (Arruda et al 2013) Malaysia (Ufere et al 2017, Ahmad and Mohamad 2013) and cross country studies (Lu et al 2018, Lim and Loosemore 2017, Lu et al 2016, Dilek, Heyecan and McDermott 2015). Likewise, studies are also conducted in the Nigerian construction and building materials industry (see Ejiofor et al 2018, Ibrahim and Garba 2015, Usman and Amran 2015, Uwalomwa and Uadiale 2011).

Particularly on studies in the Nigerian construction industry Ejiofor et al (2018) investigated the key health and environmental risks brought by construction activities; its impact and mitigating mechanisms using questionnaires administered to construction workers and professionals and analysed by mean weighted value. Kajola et al (2017) examines the relationship between corporate social responsibility and firm financial performance of 36 Nigerian listed firms including construction firms for 10-year period, 2005-2014. Ordinary Least Squares (OLS) regression analysis was used to determine the direction and strength of the relationship between CSR and firm performance. The result indicates a positive and significant relationship between CSR and firm financial performance. Ibrahim and Garba (2015) conducted a study on Corporate Social Responsibility and Financial Performance in the Nigerian Construction Industry. Ex-post facto and survey designs, annual reports and accounts of sampled construction companies and questionnaires were employed for data collection using a five point Likert Scale. Data obtained was analysed using multiple regression analysis and chi-square test while results showed that financial performance of the companies in the Nigerian construction industry is impacted more by non philanthropic activities than by philanthropic services. Usman and Amran (2014) examined the nature and trend of corporate social responsibility (CSR) practices in Nigeria by conducting content analysis of 68 listed companies including construction and building materials in Nigeria 2010 – 2012. Uwalomwa and Uadiale (2011) evaluated the level of corporate social environmental disclosure among listed companies in the brewery and building material industry in Nigeria. Content analyses of corporate annual reports for the periods 2004-2008 were utilized in collecting relevant data while student t-test statistics was used to determine differences between the two industries. Findings from the study revealed significant differences in level of corporate social environmental disclosures between the selected industries; therefore, the study concludes that corporate social environmental disclosure among the selected listed companies is very low and evolving.

Although viewed as an evolving concept (Parker and Gould 1999, Taylor and Rosair 2000); multi-faceted (Bovens 2005, Horton 2006); thus, an elusive concept (Boven 2005), accountability broadly denotes the state of one party being held to account to another party (Jun Do, Davey and Coy 2014) or the ‘giving and demanding of reasons’ for conduct occurring at various social constructs (Roberts and Scapens 1985). Based on assumed existence of social contract between corporate organisations and the larger society, corporate organizations should be morally held responsible and accountable for their actions which could be discharged through preparing and publishing corporate annual reports including social and environmental disclosure ((Hassan and Kouhy 2015, Hassan 2012, Collier 2008, Parker and Gould 1999, Gray, Kouhy and Lavers 1995b).

Therefore, listed companies in the Nigerian construction and building materials industry could render social and environmental accountability by providing adequate information on the social and environmental issues in the industry. The aim of this study is to evaluate the social and environmental accountability of listed companies in the Nigerian construction and building materials industry by one; ascertaining quantity of the disclosure which is signifying the importance of these issues in the industry (Krippendorff 1980). Two, ascertaining the consistency of disclosed themes with prevailing social and environmental problems in the industry. In this way, the study will make further contribution on what is known about social and environmental disclosure accountability of the Nigerian construction and building materials industry. This study perhaps differs from previous studies as it one; focuses on the social and environmental accountability of listed companies purely in the construction and building material industry. Two, it cover a period of 10 years perhaps long enough to ascertain the pattern of the disclosures which may perhaps portray level of accountability; three, the study is benchmarked on Global Reporting Initiative (GRI) disclosure guideline in determining what is social or environmental disclosure. Four, the study adopted modified word count content analyses in determining volume of the disclosure and patterns over the 10 years period and five, legitimacy theory is employed to underpin the study. This is section one of the study; subsequent section is section two which is method of the study; results of the study is presented as section three while discussions of the results is section four.

### **Method:-**

Various techniques utilized in collecting and analysing data for research constitutes method of the research and an important step to choosing the right method of conducting research is choosing the philosophical assumptions that will underpin the study. These assumptions are ontological, epistemological and methodological (Collis and Hussey 2014). Ontology is about whether reality is objective in nature; thus, external to the researcher or reality is from within the consciousness, cognition or mind of the individual; thus, subjective (Burrell and Morgan 1979). Epistemology is concerned about 'what constitute valid knowledge (Collis and Hussey 2014) or what is an acceptable knowledge in a particular field (Bryman and Bell 2007). Believing that only observable and measurable phenomena could be validly regarded as knowledge is deep rooted in positivism approach while reducing the distance between the researcher and what is being researched by arguing for participation of the researcher in the inquiry is rooted in interpretivism approach (Collis and Hussey 2014).

Choosing appropriate philosophical assumptions lead to the choice of the research strategy (Collis and Hussey 2014) which could be inductive, deductive, retroductive or abductive (Blaikie 2007). Ontologically, the social and environmental disclosure practices of listed companies in the Nigerian construction and building material industry as reported in their annual reports and accounts is an objective reality. Epistemologically, the social and environmental disclosure practices of sampled companies is quantitatively obtained through content analysis which is quantifiable consistent with positivism. Consequently, the strategy of this study is deductive which entails the use of empirical observations to test theories (Collis and Hussey 2014). Hence, the task is to find out possible explanation or a theoretical argument for regularity of the social and environmental disclosure practices of companies in the Nigerian construction and building material industry (Blaikie 2007).

### **Data and its Collection:**

Relevant research data are broadly classified into primary and secondary and it could be qualitative or quantitative (Collis and Hussey 2014) which can be obtained through conducting interviews, making observations, questionnaire surveys, content analysis of documents, among others (Creswell 2013, Collis and Hussey 2003, Morgan and Smircich 1980). However, choosing a data collection method highly depend on which method is considered most appropriate and suitable to answering research questions (Spencer et al. 2003). The main sources of data for this study are the annual reports and accounts of the sampled companies which were converted from PDF to words documents using ABBYY PDF transformer. Relevant data is then collected through content analysis defined as "a method by which selected items of qualitative data are systematically converted to numerical data for analysis" (Collis and Hussey 2014, p. 166). The method is also regarded as quantitative analysis of qualitative data (Morgan 1993) associated with the positivism research paradigm (Collis and Hussey 2014) described as objective, systematic and quantitative (Berelson 1952).

Content analysis assumes that extent of disclosure signifies the importance of the disclosed topic to the reporting entity (Krippendorff 1980). This method of data collection has the strength of allowing the use of retrospective data, its track and changes over time which could be useful for building data base (Kondracki, Wellman and Amundson 2002) and reflect trends in a social system (Babbie 2013). Different approaches to undertaking content analysis of corporate social and environmental disclosure have been documented while Vourvachis (2007) reports indexing and volumetric approaches; Owusu-Ansah (1998) documents frequency and index approaches. However, Gray, Kouhy and Lavers (1995b) stated that content analysis generally follows two paths: namely, number of disclosure and amounts of disclosure. To determine volume of disclosure, word counts (Wasara and Ganda 2019, Mohammed 2018, Mohammed 2016, Lee 2015, Suttipun and Stanton 2012, Zeghal and Ahmed 1990); sentence counts (Jessop et al 2019, Williams and Pei 1999, Hackston and Milne 1996); average lines (Belal and Lubinin 2009, García-Ayuso and Larrinaga 2003,); and proportion of pages (Lungu, Caraianni and Dascălu 2011a, Gray, Kouhy and Lavers 1995b) were used and a researcher is free to choose the method considered most appropriate (Williams 1999).

Word count content analysis record disclosure levels in greater detail (Deegan and Gordon 1996) and is easier to be categorized (Weber 1990, Wolfe 1991). Thus, it is expected to reveal quantity of disclosure (Zeghal and Ahmed 1990). Likewise, word as the smallest unit of measurement is expected to provide maximum robustness when assessing quantity of disclosure (Wilmshurst and Frost 2000). The method is not without criticism, such as being tedious when analysing large volume of textual data (Hackston and Milne 1996), and lack of meaning to provide sound basis of coding disclosure (Hassan 2012). To benefit from the strength of word count content analysis as well as address 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, GRI disclosure guideline is adopted as benchmark. GRI is a multi-stakeholder, international guideline concerned with developing and propagating globally appropriate and acceptable sustainability reporting guidelines for use by organizations reporting on their economic, environmental, and social dimensions of activities, products and services. It is designed to be used by organisations of any size, sector, or location (GRI 2002). The guideline provides the opportunity to compare information and benchmark different organisations (Ioannou and Serafeim 2012); thus, elevating it to have the same rigor as financial reporting, allowing for comparability, enhancing audit and acceptability of corporate social responsibility (Alonso-Almeida, Llach and Marimon 2014) and is the most widely used sustainability reporting standard worldwide (KPMG 2017, Roca and Searcy 2012, Rasche 2009). However there are different versions of the guideline G1(1999); G2(2002); G3(2006); G3.1(2011) and G4(2016) while effective 2018, GRI standards supersede these versions (GRI 2019). The period covered by the study is 2009 – 2018; thus, the prevailing GRI guideline as at 2009 is G3 issued in 2006. Therefore, G3 guideline is adopted to benchmark disclosure practices of sampled companies while incorporating subsequent changes in G3.1 and G4 which are mostly further expansion on disclosure requirements of G3.

### **Population and sample of the study**

Population of a study refers to "... an entire group about which some information is required to be ascertained" (Banerjee and Chaudhury 2010, p.60); thus, participants in a population must share at least a single attribute of interest to qualify as members of the population (Creswell, 2003, Bartlett et al., 2001). However, it is possible that often population contains participants whose inclusion in the study would violate the research goal, assumptions, and/or context. In this kind of situation refinement of the population is necessary to exclude members whose involvement in the study may violates the research goal, assumption or context and this brings the concept of population sample (Asiamah et al 2017). Sample is defined as any member of the fully defined population or simply a sub set of the population (Banerjee and Chaudhury 2010).

The Nigerian construction and building material industry in this study is considered as composing of all listed companies engaged in any activity related to construction and manufacturing of building materials. There are 8 listed companies in the construction/real estate and another 13 companies in the industrial goods sub sector engaged in the manufacturing of cement, paints, glass and other building materials. Thus, 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. The construction and building material sector is accounting for 16.56% of the total N28.26trillion capitalisation of the market as at 9 January 2020. However, some of the companies violet the goals and assumptions of this study and must be excluded from the study to arrive at the sample of the study. Three of the companies were listed in 2020, 2018 and 2012 respectively; thus, automatically out as the study covers 2009 - 2018. Similarly, this study could access the online annual reports and accounts of only 7 companies from the remaining 18 representing 38.88% of the entire population.

Conversely, these 7 companies are accounting for N3.28trillion which is 96% of the N3.42trillion (excluding the company listed in 2020) market capitalization of the construction and building material sector. Therefore, in terms of market capitalisation the 7 companies are controlling 96% of the sector. Convenience sampling refers to a type of non-probability or non-random sampling in which members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included as sample of the study (Dörnyei 2007). Therefore, this method is adopted in this study by considering the 7 companies with availability of online annual reports and accounts. The seven companies represents approximately 39% of the total listed companies and in study of 20 samples 34% is considered a moderate representation on which valid conclusions could be drawn (Statistics Solution 2019). However, looking at their market capitalisation of 96% of the sector, the sample could be considered as excellent representation. Having specified the population and sample of the study, subsequent sub-section is on theoretical framework underpinning the study.

### **Theoretical Framework of the Study**

Legitimacy although defined from different perspectives generally refers to perceptions or assumptions that the actions of an entity are suitable, needed, or correct within the norms, values, definitions and beliefs of the society

(Suchman 1995). Therefore, corporate organisations are operating within societies based on the notion that they are meeting the expectations of the society (Deegan 2007) which is premised in the existence of social contract between the two (Deegan 2007, Lindblom 1994). However, in the event of actual or potential disagreement between the two systems, there will be a threat to legitimacy (Lindblom 1994) which could result into imposing sanctions such as restricting corporate operations, limiting access to resources (financial, labour etc.) and reducing product demand through boycotts (Deegan and Rankin 1996). Consequently, to maintain their legitimacy of operations, corporate organisations are doing their best to first, ensure congruence of their activities with societal expectations and perceptions; and second, disclose their activities as being in congruence with societal expectations (Gray, Kouhy and Lavers 1995a, Dowling and Pfeffer 1975). In this regard, four strategies to gaining or maintaining legitimacy by corporate organisations have been extensively discussed (Lindblom 1994).

First, the organization may make efforts to educate its 'relevant publics' about changes in its activities or performance. This could be by way of providing information to counteract or balance negative media news about the organization (Deegan 2002) and this strategy is normally adopted when it is perceived that the 'legitimacy gap' is arising from failure in performances (Gray, Kouhy and Lavers 1995a). Second, an organization may seek to change the perceptions of the relevant publics rather than change its actual performance through provision of information about previous unknown attributes to interested parties (Deegan 2002). This strategy is chosen when it is presumed that the legitimacy gap arises from misperception of corporate activities by the relevant publics (Gray, Kouhy and Lavers 1995a). Third, corporate organizations may choose to contrive the perception of the relevant publics by changing direction of attention from the main issue of interest to related issues such as drawing attention to implemented safety initiatives or won environmental award while downplaying such social issue of workplace accidents or environmental pollution (Deegan 2002). Corporate organisations adopt this strategy to manipulate perceptions (Gray, Kouhy and Lavers 1995a).

Fourth, corporate organizations may seek to change the perceptions of its performance by the relevant publics in instances where it is opine that the perceptions of the relevant publics are unrealistic or incorrect (Gray, Kouhy and Lavers 1995a). Each of these four strategies could be employed by corporate organisations through social and environmental disclosure (Lindblom 1994). Indeed, legitimacy theory has been found useful in explaining social and environmental disclosure in developed economies (see Vollero et al 2019, Lanis and Richardson 2013, Hraskey 2012, Branco and Rodrigues 2006) and the emerging and developing economies (Xu et al 2019, Abdull Razak 2015, Sulaiman, Abdullah and Fatima 2014, Khan, Muttakin and Siddiqui 2013, Mahadeo and Oogarah Hanuman 2011a, Coetzee and van Staden 2011). This study posits that in consistence with legitimacy theory, sampled listed Nigerian construction and building materials companies are making social and environmental disclosure on issues of concern and interest to influential groups in the society to maintain legitimacy with such groups (Hassan 2012). Therefore, legitimacy theory is employed to underpin this study; next section presents the results of the study.

## Results:-

It is important here to give an outline of GRI G3 issued in 2006 with which social and environmental disclosure practices of sampled listed companies in the Nigerian construction and building materials industry are benchmarked. In this guideline, there are total of 33 aspects out of which social disclosure has 22 aspects, environmental disclosure has 9 aspects while economic disclosure has 2 aspects. Under the 22 aspects of social disclosure there are 40 disclosure performance indicators; thus, disclosure on these indicators gives aggregate social disclosure which could be broken down to the various aspects. Environmental disclosure has 9 aspects and 30 performance indicators from which total environmental disclosure could be ascertained. To assist in properly understanding the social and environmental accountability of sampled listed companies, Table 3.1 compares annual total disclosed words 2009-2018 with social and environmental disclosed words.

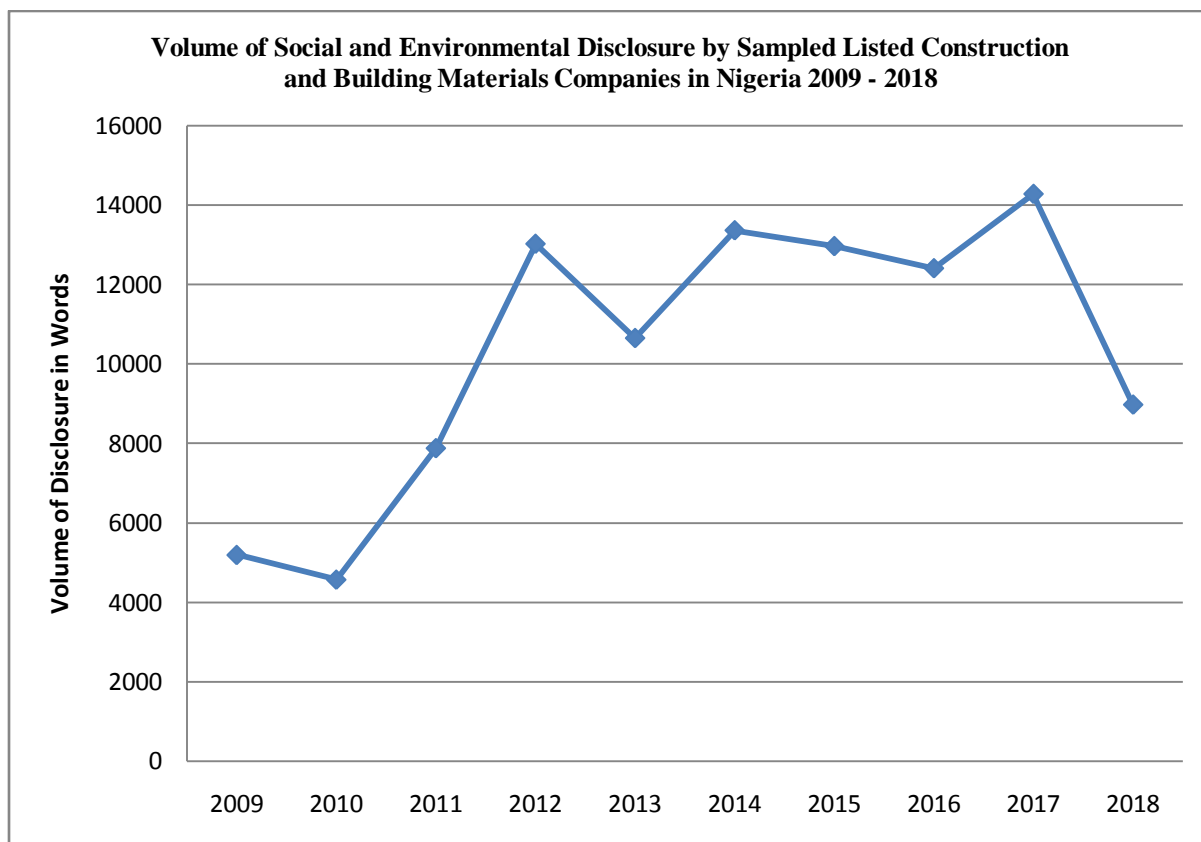
**Table I:-** Comparison of Total Disclosed Words in Annual reports and Accounts and SED words 2009-2018.

S/N	Year	Total Words in ARA*	Total SED** Words	Percentage of SED Words from Total
1	2009	103,093	5,172	5
2	2010	111,826	4,571	4
3	2011	155,033	7,879	5
4	2012	234,097	13,021	6

5	2013	231,469	10,650	5
6	2014	274,197	13,361	5
7	2015	295,216	12,963	4
8	2016	310,992	12,406	4
9	2017	327,932	14,276	4
10	2018	349,892	8,975	3

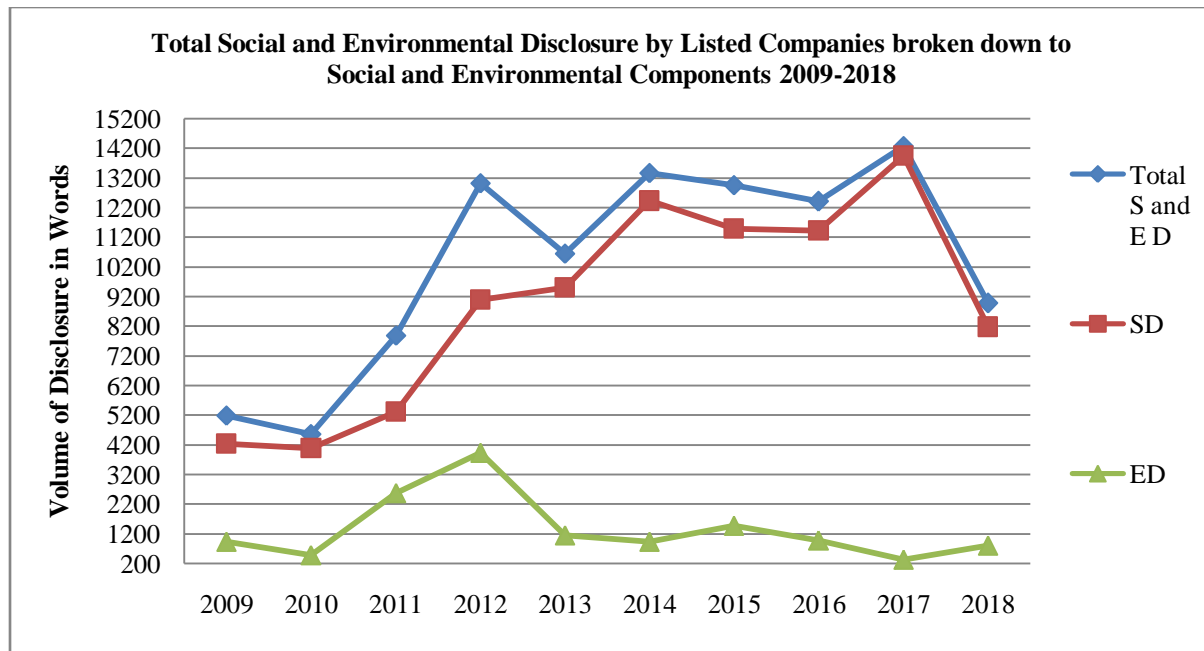
\*ARA = Annual Reports and Accounts; \*\*SED = Social and Environmental Disclosure

Results in Table 3.1 indicate that social and environmental disclosure words accounted for only 5% of total disclosure in 2009; 4% of total disclosure in 2010; 5% in 2011; 6% in 2012 and 5% in 2013. The percentages of social and environmental disclosure from total disclosure words in 2014 is 5%; 4% in 2015, 2016 and 2017 while in 2018, it is 3%. The remaining 95% of disclosure in 2009, 96% in 2010, 95% in 2011, 94% in 2012, 95% in 2013 and 2014, 96% in 2015, 2016, 2017 and 97% of disclosure in 2018 are accounted for by economic disclosure. To further understand the social and environmental accountability of sampled companies through volume of disclosed words, Figure 3.1 indicates the volume of social and environmental disclosure by sampled companies 2009-2018.



**Figure I:-** Volume of Social and Environmental Disclosure in Words 2009-2018.

From figure 3.1, total social and environmental disclosure volume by sampled companies in 2009 was 5,192 words, decreasing to 4,571 words in 2010, increasing to 7,879 words in 2011, 13,021 words in 2012 and falling down to 10,650 words in 2013. Total social and environmental disclosure increased to 13,361 words in 2014, decreasing to 12,963 words in 2015 further decreasing to 12,406 words in 2016; then, increasing to 14,276 words in 2017 and falling down to 8,975 words in 2018. To further understand the social and environmental accountability of sampled companies, Figure 3.2 broke down the disclosure to social and environmental components.



**Figure II:-** Total Social and Environmental Disclosures Broken into Social and Environmental Components.

From Figure 3.2, out of total 5,192 social and environmental words disclosed in 2009, social disclosure has 4,246 words environmental accounts for 946 words. Social disclosure account for 4,085 words in 2010 out of the 4,571 total disclosed words while environmental accounts for the remaining 486 words. In 2011 total of 7,879 words were disclosed from which social disclosure accounts for 5,326 words while environment accounts for 2,571 words. Social disclosure accounted for 9,091 words out of 13,021 words disclosed in 2012 while environmental disclosure has 3,930 words. Total of 10,650 words were disclosed in 2013 from which social disclosure accounts for 9,505 words while environment accounts for 1,145 words. In 2014, 13,361 words were disclosed and social disclosure has 12,426 words while environment has 935 words. Social disclosure accounts for 11,489 words from total disclosed words of 12,963 words in 2015 while environmental disclosure amounts to 1,474 words. Similarly, social disclosure accounted for 11,424 words from total 12,406 disclosed words in 2016 when disclosure on environment has 982 words. From total of 13,951 disclosed words in 2017, social disclosure has 13,951 words while environment has 325 words. In 2018, social disclosure has 8,175 words while environment has 800 words from total disclosed words of 8,175; subsequent section discusses obtained results in light of literature and practice.

### Discussion:-

Results obtained in this study were presented in the preceding section by means of appropriate descriptive statistical tools. This section interpret and discusses findings from the study in light of what is already known on social and environmental disclosure and explain new understanding or insights about investigated problems within the context of findings from the study. This is achieved by linking findings from the study with its main aim and objectives, the literature, theory and practice (Kretchmer, 2008, Labaree 2013). Results in Table I clearly indicate that the highest percentage of disclosure on social and environmental issues from the total words disclosed was 6% in 2012; thus, much of the disclosures are on economic issues. Economic stakeholders such as creditors, suppliers of raw materials, distributors of goods and services are no doubt important legitimacy stakeholders that sampled companies choose to be making disclosure on while ignoring the interest of social and environmental legitimacy groups. The result is consistent with findings by Ufere, Alias, Uche, and Onu (2017) that found marginal environmental disclosure and Evangelinos et al (2016) that found social and environmental disclosure by construction companies as lacking in many respect. Therefore, this pattern of disclosure by sampled companies largely devoted to economic interest groups is a legitimacy strategy employed by the companies to render accountability to these groups.

Figure I which is on social and environmental disclosure indicated rising patterns 2009 - 2012; then, dropping down in 2013 increasing in 2014 and 2015 again decreasing in 2016; then, increasing in 2017 and decreasing in 2018; thus, showing fluctuating patterns on the overall. These patterns are accounted for majorly by social disclosure on



board of directors, benefits of employees, and health and safety of employees such that whenever there are changes in the boards, more words are devoted to composition of the boards' thereby increasing disclosure volume. Similarly, companies provides more disclosure words whenever there are changes on employees benefits such as compensations, gratuities and terminal benefits and on issues on their health and safety. Therefore, the few words devoted to the social and environmental disclosure are accounted by the strong legitimacy conferring groups of board of directors and employees; these findings are consistent with Lim and Loosemore (2017) and Martinuzzi et al (2016). Consequently, it is evident that within the social and environmental disclosed words, attention is paid to disclosure on issues of interest to certain legitimacy conferring groups which is better explained by legitimacy theory.

Results from Figure II which broke down the social and environmental disclosure into social and environmental components indicated that majority of the disclosure is accounted by social disclosure with few environmental disclosure. The social disclosure is majorly accounted by disclosure on labour practices and decent work aspects of employment, labour/management relations, occupational health and safety, employee training and education, employee diversity and equal opportunity, non-discrimination and composition of governance bodies. However, the disclosure on health and safety do not reflect actions and decisions of sampled companies on health problems of respiratory system, liver, cancer, hearing impairment, hypertension other cardiovascular adverse effects (Enshassi et al 2014) or social problems of noise, annoyance, sleep disturbance, prevalent in the industry (Uwalomwa and Uadiale 2011). This clearly indicates that attention is on strong legitimacy conferring groups. The few environmental disclosures are largely accounted for by disclosure on provisions on decommissioning of projects at the end of their life span. However, this is a regulatory requirement under financial liabilities and obligations; hence it could be argued as an act of maintaining legitimacy with groups interested in financial performance consistent with Mohammed (2016). Therefore, aspects of environmental disclosure are not on actual environmental problems of air and water pollution, solid and liquid wastes, and destruction of habitats and ecosystem among others (Ahmed and Rahman 2015, Ametepey and Ansah 2015, Dixon 2010). The findings of few disclosure on environmental issues prevalent in the industry is consistent with Ufere et al (2017) and Uwalomwa and Uadiale (2011) while on the overall, findings on volume and aspects of disclosure are consistent with Uwalomwa and Uadiale (2011) that describe social and environmental disclosure as evolving in Nigeria. It is also consistent with Wang et al (2019), and Evangelinos et al (2016) that emphasises on improvement in social and environmental disclosure in the construction industry to cover key issues peculiar to the industry.

Therefore, it could be concluded from the findings of this study that construction and building materials companies are not rendering proper accountability by disclosing their social and environmental impacts in the annual reports and accounts. Similarly, the few disclosure made are to satisfy the needs of strong legitimacy conferring groups to maintain legitimacy rather than to render accountability. Thus, legitimacy theory is found very useful in explaining the social and environmental disclosure practices and accountability of listed companies in the Nigerian construction and building materials industry. The policy implications of these findings are one; the society may be seeing government as not doing enough to safeguard them from the negative effects of activities of these companies which may result to break down of law and order should the society demand accountability. Two, if this happens; the companies may lose their operational legitimacy, destruction of their assets and even loss of valuable lives in the event of civil unrest. Consequently, it is recommended that government regulatory agencies overseeing activities of construction and building materials companies should dialogue with the companies to ensure social and environmental accountability. Government may through the Securities and Exchange Commission (SEC) and the Nigerian Stock Exchange (NSE) regulates social and environmental disclosure in the industry to ensure sustained peace. However, further studies could be conducted with longer period of time, more samples, different method of data collection and analysis and utilisation of different theoretical framework to underpin the study. All these may perhaps lead to obtaining different results from ones obtained in this study, but will give further insight on the social and environmental disclosure practices of the industry.

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