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Nigerian Pharmaceutical Industry: An Evaluation of Social and Environmental Accountability

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ABSTRACT: - Despite the positive health and economic impacts of the Nigerian pharmaceutical industry its activities are associated with lots of social and environmental negative impacts. Increased medication costs to patients and the health system and patients loss of confidence in the industry sequel to falsified and substandard drugs are some of the social problems of the industry. Contamination of freshwater, surface water, sewage effluents, groundwater, drinking water, manure, soil, and other environmental matrices are some of the environmental problems of the industry. Similarly, residues of pharmaceutical products are important sources of Anti Microbial Resistance which constitute high risk to human lives and the ecosystems. Consequently, there are growing demands for the industry to take swifter actions to address these effects by being more transparent on its dealings with the society and environment. The aim of this paper is to descriptively evaluate the performance of the industry on its social and environmental accountability 2009 to 2018. Data for the study was obtained from online Annual reports and accounts of sampled companies using modified word count content analysis of social and environmental disclosures. Collected data are analysed and presented by means of descriptive statistics while stakeholder theory is employed to underpin the study. Results indicated low level of social accountability devoted to issues of interest to primary stakeholders in the industry and absence of environmental accountability. Obtained results are better explained by stakeholder theory and perhaps suggesting possible continued endangering of human lives and the environment which policy makers must overcome.

KEY WORDS: - Healthcare and Pharmaceutical Industry, Waste, Contamination, Anti Microbial Resistance, Stakeholder Theory

I. INTRODUCTION

The Global Pharmaceutical industry is making significant contribution in the improvements of human health globally for decades [1 2]. The improvements which are accounted for by innovations in the pharmaceutical industry include enhanced longevity and health status relating to saving of work days and school hour loses. Similarly, there are improvements in cost savings in the health care system perhaps allowing more patients access to medications [1 3]. Innovations in technologies for prevention of infectious diseases by the industry have resulted in eradicating smallpox, virtually eliminated measles, diphtheria and rubella in many parts of the world and have driven polio to the brink of eradication. Furthermore, estimated 1.14milion lives of African children are saved by malaria drugs and vaccines 2011 to 2015 [4]. Vaccines production by the pharmaceutical industry are saving the lives of over 2.5million children every year and death rate from such diseases as HIV/AIDS has reduced from an estimated 2.4million people in 2004 to 1.1million in 2018 [5]. Likewise, research based pharmaceutical companies are taking initiatives to strengthen local healthcare capacity, educating patients and populations at risk, and conducting research and development in diseases of the developing world [4 1]. Furthermore, several of such companies are licensing their technologies to high quality generic producers while others are expanding their production and distribution capacities to meet the needs of poor patients [4]. Thus, it is evidently clear that the pharmaceutical industry is playing significant roles in the health, motivation and capacities of the population thereby contributing to the reduction of poverty [6]; which is a basic goal of the United Nations Sustainable Development Goal (UNSDG). Similarly, innovative products contribute to gender equality [7] while efforts to enhancing the affordability of pharmaceuticals are contributing to the reduction of inequalities [8] all of which are Sustainable Development Goals (SDG's) of the United Nations [9].

From the economic perspective, the global pharmaceutical market is worth $934.80billion as at end of 2017 and growing at 5.80% or 6% annually [10 11]; therefore, by estimation the market is worth over $1trillion

as at end of 2019. Thus, the industry is acknowledged as potential engine to drive social changes by helping in the reduction of poverty, unemployment and inequality which perhaps are the biggest challenges facing society today [12 13]. Despite these positive contributions and impacts of the industry, its activities are surrounded with some negative social and environmental impacts [14 15 16 17 18 19 20 21 22 23 4 24 25 26 27 28 29]. The industry is identified with prevalence of falsified and substandard drugs which leads to poisoning [30 31] and treatment failure which in turn results to untreated disease and early death [28]. The industry is also identified with environmental pollution which is becoming a global threat to ecosystems and human lives [21]. This is evident in the detection of pharmaceutical wastes in surface water, sewage effluents, groundwater, drinking water, manure, soil, and other environmental matrices globally [32 29 28]. Consequent to this pollution, evidences have shown significant growth in Antimicrobial Resistance (AMR) recognised as one of the biggest global public health concerns facing humanity [33 24 34 35 20 36]. Activities of the pharmaceutical industry are also associated with Carbon Dioxide (CO_2) emission [15] which is responsible for global warming and climate change [37 38 39] causing lots of social and environmental impacts [12 40 41 42 43 44]. Consequent to these social and environmental impacts of the industry; there are calls for the industry to be more socially and environmentally responsible [15 16 12]. One medium of discharging such responsibilities is through annual reports and accounts including sustainability reports [45 46 47 48]. Although the social and negative impacts of the pharmaceutical industry are global phenomena, they are more prevalent in the emerging and developing economies [49 21].

Nigeria is an emerging and developing economy located in the tropical zone of West Africa situated between latitudes 4^0 and 14^0N and longitudes 3^0 and 15^0E with an estimated land mass of 923,770km2 [50 51 52]. The country's population has been growing at a decadal average of 27.83% 1960 to 2018 while its estimated population as at end of 2018 stood at 195,874,740 [53]. Futuristically, the United Nation World Population Prospects for 2017 projects the population of country to reach 410million by 2050 [54]. The per capita income of the citizens at 2010 constant measure is $2,396.31 which is among the lowest globally [55]. Nigeria's growing population and low per capita income and other problems associated with emerging and developing economies are perhaps drivers for exploitative activities by pharmaceutical industries. Total of 11 children died in 1996 and another 84 died in 2009 consequent to administering sub-standard drugs [56 31]. Similarly, the Nigerian pharmaceutical industry is associated with discharge of contaminated waste water [57 58 59]. Likewise, the industry is bedeviled with problem of corruption which in addition to its social ills is facilitating the production and trafficking of counterfeit and sub-standard drugs [60]. However, there are demands by diverse interest groups for the industry to be more socially and environmentally responsible in carrying out its activities [61 62]. Similarly, previous studies are calling for more research on the social and environmental disclosure practices of the Nigerian pharmaceutical industry [63]. One way of doing this is through the provision of information on the social and environmental issues in the industry in the annual reports and accounts. Therefore, the aim of this study is to descriptively evaluate the performance of the Nigerian pharmaceutical industry on its social and environmental accountability by means of disclosure in the annual report and accounts. The evaluation takes the form of ascertaining quantity of the disclosure, the trends of the disclosure 2009 to 2018 and the consistency of the disclosure with practical social and environmental problems in the industry. Although there are previous studies on the social and environmental disclosure practices of the industry, they are mainly cross industry. Consequently, this study may contribute on; one; being focusing on the pharmaceutical industry alone, it may reveal better insight into the social and environmental accountability of the industry. Two, the study is carried out longitudinally for a period of ten years probably long enough to give the trends of the disclosure. Three, the study is benchmarked on Global Reporting Initiative (GRI) disclosure guideline in determining aspects of social or environmental disclosure. Four, the study adopted modified word count content analysis in determining volume of the disclosure. Five, the time frame of conducting this study which previous studies do not exactly cover may help in understanding the social and environmental accountability practices of the industry. Six, the study is contributing on updating existing knowledge on social and environmental accountability by Nigerian pharmaceutical industry in particular and the practice in Nigeria in general. Therefore, this introduction is part I, literature review is part II, data and methods of the study is part III, results of the study is presented as part IV while part V is discussions on obtained results. Subsequent section is review of existing literature related to the study.

II. LITERATURE REVIEW

Review of existing literature assists in identifying gaps to be filled and justification of steps taken in the process of conducting the study. Social and environmental disclosure accountability studies of the pharmaceutical industry are conducted in developed economies and emerging and developing economies. Consequently, review of existing literature is carried out from these perspectives. [64] Explore the social responsibility reporting of pharmaceutical companies in the United States of America (USA) aimed at comparing how the companies see themselves and how others see them when communicating Corporate Social

Responsibility (CSR). Data was collected from the reports of the companies themselves and business press reports from Lexis-Nexis. Data collection focuses on Carroll Adam's CSR framework encompassing economic, legal, ethical, and philanthropic categories. NVivo content analysis was used to compare CSR communication by companies and the business press with additional analysis to discern individual, organizational, and societal patterns of communications. Results from the study indicated that sampled companies communicate more about their economic and philanthropic activities while the business press communicated more about their legal and ethical activities. Similarly, the companies communicated more about organizational topics and the business press communicated less about societal topics.

[65] Investigated the impact of corporate social responsibility disclosure on the financial performance of crude petroleum, mining metal and pharmaceutical firms in the United Kingdom (UK) 2008 to 2012. Data for the study was collected from ORBIS, a global database while the collected was analysed for relationship between CSR and the financial performance of the firms using SPSS 22 statistical software. Results indicated that the mining metal has the highest mean value of 0.008(0.8%) on CSR disclosure, followed by crude petroleum 0.007(0.7%) while pharmaceutical industry has the least mean of CSR disclosure with 0.005(0.5%). On average, the mining has 8 keywords relating to CSR for every 1000 words disclosed; crude petroleum has 7 keywords while the pharmaceutical has 5 keywords. The pharmaceutical industry is perhaps the least interested on CSR having maximum of only 42 CSR keywords for every 1000 words which is less than half of what the industry of mining metal and crude petroleum publish. Thus, it is concluded that the pharmaceutical industry is least inclined to CSR. Social and environmental disclosure studies of the pharmaceutical industry are also conducted in emerging and developing economies. [66] Investigated Corporate Social Responsibility (CSR) reporting by Brazilian pharmaceutical industry for the year 2018. Data for the study was collected from the website of sampled large 19 pharmaceutical companies for the presence of CSR information. Collected data was analysed by looking for the presence or absence of CSR units of analysis. The study found about 53% of sampled companies having information or links related to CSR but only one company mentioned concrete facts about community programs which all the companies are emphasizing. Sampled companies are found more interested in mentioning communities that benefitted from CSR with no feedback on executed CSR projects. Sampled companies are not providing information on fair treatment of employees relating to such issues as anti-discrimination initiatives of gender, race, age and others and equal opportunities for training and promotion. Therefore, it is concluded that although CSR is a global concern, sampled Brazilian pharmaceutical companies are not paying attention to it.

[67] Examined the social and environmental disclosure practices of 125 Chinese pharmaceutical companies 2010 to 2016 from CSR dimensions of shareholders, employees, customers and suppliers, environmental practices, and the society to gauge the impact of these dimensions on the financial performance of sampled companies. Data for the study was collected from the Hexun CSR database while the Hexun CSR ratings widely employed as a valid proxy in measuring CSR performance of Chinese enterprises since 2010 is employed in the study. Results from the study indicated that sampled companies attach more importance to CSR issues relating to shareholders with a mean value of 57.57, followed by society 30.79 and employees 22.87. Disclosure on CSR issues relating to customers and environments have zero mean values; thus, sampled companies demonstrated lack of concern for their customers and the environment. The study concludes that sampled companies have no regards for the environment in which they are operating despite its importance while more need to be done on disclosure on studied social dimensions. This study is focusing on the social and environmental accountability of Nigerian pharmaceutical industry on which literature exists; thus, it is important to review such.

[68] Investigated the effect of sustainability reporting on the profitability of seven listed pharmaceutical firms in Nigeria covering 2012 to 2016 financial years. Secondary data were obtained from the annual report and accounts of the sampled companies while collected data was analyzed using the ordinary linear regression. The study is underpinned by stakeholder theory in an attempt to understand the disclosure practices and its influence on profitability. Results showed that both environmental and social disclosure indexes have statistical positive but insignificant relationship with Return on assets as a measure of profitability of pharmaceutical firms in Nigeria. In a cross industry study, [69] evaluated the impact of corporate social responsibility disclosure (CSRD) on the financial performance of listed manufacturing firms in Nigeria involving seven subsectors of Food, Beverages and Tobacco; Breweries; Chemical and Paints; Industrial and Domestic product; Conglomerates; Building Materials; and pharmaceuticals 2002 to 2012. Data was collected from the annual reports and accounts of the sampled companies using sentence count content analysis. Dichotomous unweighted scoring approach in which disclosed item of information was scored one (1) and zero (0) for undisclosed information is employed. Results indicated that the most disclosed issue is on community involvement with a mean value of 57.30 followed by human resources 53.95, product information 50.90 and environment 36.50. Thus, environmental disclosure has the least mean value suggesting its non-significance to the sampled companies despite its importance.

In another cross industry study, [70] investigated the association between corporate environmental visibility and the level of corporate social responsibility disclosures among 30 listed firms in Nigeria including the pharmaceutical industry for the period 2006 to 2010. Data for the study was collected from the annual reports of sampled companies using content analysis and the Kinder Lydenberg Domini (KLD) scoring scheme to measure the disclosure scoring 1 for disclosed items and 0 for undisclosed items. To further guide the study in choosing social disclosure, a disclosure index containing 20 items was developed while stakeholder theory is employed in understanding the disclosure practices. Results from the study reveal that firms in the brewery and building material industry has the highest level of corporate social disclosure with a maximum score of 48.80 while the pharmaceutical industry has the lowest score of maximum of 15.40. However, the study concluded that the level of corporate social responsibility disclosures among the selected listed companies in Nigeria is low and is still evolving.

This study differs from reviewed studies on disclosure practices of Nigerian pharmaceutical industry from varied perspectives. Although [69] focus on Nigerian pharmaceutical industry alone, it investigated relationship between social disclosure and profitability. The studies by [69] and [70] are cross industry involving the pharmaceutical industries focusing on different issues. While the former evaluated the impact of corporate social responsibility disclosure (CSRD) on the financial performance of listed manufacturing firms in Nigeria; the later focuses on the relationship between corporate visibility and social disclosure. The time frame covered in [68] covered 2002 to 2012 while [70] conducted the study covering 2006 to 2010. Secondary data were obtained from the annual report and accounts of the sampled companies while collected data was analyzed using the ordinary linear regression in the study by [68]. [69] employed sentence count content analysis to collect data while [70] used weighted content analysis guided by Kinder Lydenberg Domini (KLD) scoring scheme. In addition, studies by [69] and [70] employed regression analyses. While the study by [68] and [70] are underpinned by stakeholder theory; the study by [69] is not underpinned by any theoretical framework. Consequently, differences in focus and aims, time period, method of data collection and analyses between reviewed studies and this study may reveal new knowledge or confirm what is known on social and environmental disclosure in the Nigerian pharmaceutical industry and the country in general. Similarly, the literature is calling for further studies on Nigerian pharmaceutical industry; thus, these could serve as justification of conducting this study. Subsequent section is on data and methods of conducting the study.

III. DATA AND METHODS

Data

To conduct an empirical research of this nature data is needed which could be sourced from two broad sources using various means [71 72]. Therefore, the essence of this section is to specify and justify the type of data collected in conducting this study utilizing the method considered most appropriate and suitable in achieving the aim of the study [73]. The aim of this study is to evaluate the social and environmental accountability of the Nigerian pharmaceutical industry longitudinally 2009 to 2018. Although considered as multi-faceted [74 75] and evolving concept [76 77], accountability broadly refers to the state of one party being held to account to another party [78]. There exist an implied moral social contract between corporate organisations and the larger society [79 80]; thus, corporate organizations should be held responsible and accountable for their actions and inactions [80]. One way of discharging this accountability by corporate organizations is through the publication of corporate annual reports [46 49 81] encompassing social and environmental reports [81 82 83]. Corporate Social and Environmental Disclosure (CSED) in the annual reports and other mediums could be regarded as means of discharging corporate accountability to the larger society [46]. Therefore, this study employs the use of disclosure and accountability to mean the same thing. Consequently, data for this study is obtained from the annual reports and accounts of sampled pharmaceutical companies as medium of discharging accountability. There are total of ten listed pharmaceutical companies on the Nigerian Stock Exchange (NSE) as at 30th June 2020. The study has accessed annual reports and accounts of seven companies which represent 70% of the population and they are controlling 93.05% of the sector's market capitalization. Thus, the sample is enough to make findings and draw conclusion on the population; the next section specifies the method employed in conducting the study.

Method

Methodology is the approach used in conducting research which involves body of methods while the techniques used in collecting and analysing data for the research represent methods [84]. However, it is important to specify philosophical assumptions underlining the conduct of the research [84 85] which determines the type of research paradigm to be followed [84]. Positivism research paradigm which has its roots in an objective philosophy known as realism and interpretivism paradigm which has its roots in idealism which is subjective are the two ends of the continuum of paradigms [84]. Ontology, epistemology and methodology [85] and axiological and rhetorical assumptions are the identified philosophical assumptions [84]. Ontology concerns

the nature of reality [86]; therefore, if reality is considered as objective, such is ontologically objective following positivism research paradigm. However, if the research is ontologically considered as subjective it is following interpretivism paradigm which is subjective [84]. Epistemology deals with what is considered as valid knowledge obtainable through observation and measurements only from the perspective of positivism. Conversely, interpretivistism is encouraging the participation of researcher in the process of the inquiry [84 86]. Methodological assumption concerns itself with actual processes of conducting research [87]. This study is ontologically subjective following interpretivism; collected data on social and environmental accountability are subjected to descriptive analyses; therefore, the epistemology of the study is participatory while its strategy is that of drawing reasoning from particular to general [88].

Content analysis is the most widely used method in empirical studies on social and environmental accountability [89 90 49]. This method of data collection assumes that volume of disclosure signifies the importance of the disclosed topic to the reporting entity [91 92]. Content analysis is carried out from varied perspectives such as proportion of pages [93 94 49]. Similarly, average lines [95 96]; sentence counts [97 98] and word counts [99 83 100] have been used. Although word counts is the most widely used method [84] it is criticise as individual word alone without sentence or sentences may not have meaning to provide sound basis of coding social disclosure [45]. To overcome this, this study employed modified word counts content analysis in which only social and environmental words in phrases or sentences conveying meaning are counted [91 83]. Therefore, to evaluate the social and environmental accountability of the Nigerian pharmaceutical industry annual reports and accounts of sampled companies are collected online in PDF format. These were then converted to word documents by means of ABBYY PDF transformer to aid in collecting meaningful words that pertains social or environmental disclosure. To determine social or environmental disclosure of sampled companies, GRI disclosure guideline is adopted as benchmark [91]. GRI is an international social and environmental disclosure guideline for use by organisations of any size, sector, or location [101]. However, GRI guideline is of different versions, G1(1999); G2(2002); G3(2006); G3.1(2011) and G4(2016) while effective 2018, GRI standards supersede these versions [102]. This study covers 2009 to 2018 and 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. To conduct research studies, a blueprint, map or guide commonly known as theoretical framework should be provided [103 104]; hence, subsequent section is on the theoretical framework underpinning this study.

Theoretical Framework of the Study

The blueprint or guide for the conduct of research is referred to as theoretical framework [104] and is the foundation upon which a research is laid [105]. It is also regarded as the specific theory or theories about the aspects of human endeavours useful to the study of events [106]. Indeed, to make research findings more meaningful and generalizable [67]; theoretical framework need to be situated and contextualized in research studies to serve as guide [107]. Consequently, it is of significance to identify and link this study with a suitable theoretical framework. Numerous theories are employed in understanding CSED such as Accountability theory [108], Political economy theory [109 110], Stakeholder theory [68 111], Legitimacy theory [91 112], and Institutional theory [113] among others. Researchers are free to choose and justify the theory that appears most suitable in underpinning conduct of a research [115]. The definition of stakeholder theory is somewhat contentious as [115] reviewed 179 definitions while [116] reviewed 435 definitions. Conversely, there is probable congruence on corporate stakeholders identified as consumers; employees; stockholders, customers; suppliers, local community; managers of the firms' and the public including government [117 118 119 120 121]. However, Freeman's definition of stakeholders as "any group or individual that can affect or is affected by the achievement of an organisation's objectives'' is more broad and encompassing [122, p. 46) and is the most accepted definition of stakeholders [123]. The definition by Freeman (1984) is also recognized as a landmark work that laid the foundation of stakeholder theory [84 124 119]. Stakeholder theory is found useful in managing corporate relationship with the identified stakeholder groups and has provided an understanding of changes in corporate behaviours that recognises other claimants than the traditional stockholders [125]. This has assisted in integrating economic and social aspects of businesses [126] and enhanced organisational management and ethics [127].

Three variants of the stakeholder theory are documented which are the instrumental, normative and descriptive variants [83 128 129]. However, the instrumental variant which relates to *what happens if stakeholders* are treated in certain manners by managers and the normative which dwells on *how managers* should deal with stakeholders are the most widely used in empirical studies of this nature [83 130]. The definition of stakeholders by Freeman (1984) to include *any group that can affect an organisation's achievemen*t is signifying that corporate organisations have a stake and interest in the behaviour of certain stakeholders' for perceived benefits. Therefore corporate organisations identify such stakeholders and manage them including the

use of corporate reporting encompassing social and environmental reports [83 131 128 132]; this is the instrumental variant of the stakeholder theory. Furthermore, Freeman (1984) definition of stakeholders included *those that are affected by achievements of firms' objectives* and this is the normative variant which is about *doing the right thing* not necessarily for driving benefits [83 130 132]. This variant has its root from the concept of social contract that provides rights for all stakeholders who can affect or are affected by the activities of corporate organisations [132]. Therefore, stakeholders interested in social and environmental disclosure should be provided with the required relevant information. In doing this, corporate organisations will be discharging accountability to all stakeholders which ought to be discharged [132 82]. From the perspective of the instrumental stakeholder theory sampled companies may be focusing on discharging of accountability to those considered instrumental to the industry. Sampled companies may also be rendering accountability on all actions and inactions irrespective of the importance of stakeholders interested in such. Stakeholder theory is found useful in elucidating corporate social and environmental disclosure as means of discharging accountability [133 134 118 135 136 137 138 139 140]. Consequently, this study adopts stakeholder theory in an attempt to evaluate social and environmental accountability of the Nigerian pharmaceutical industry longitudinally; subsequent section is results of the study.

IV. RESULTS

In this section of the paper, numeric and graphical descriptive statistical tools are employed to present results of the study from which findings, conclusions and recommendations are drawn. To enhance better indulgent of the results, it is pertinent to give an outline of GRI 3 as the first version used in this study. GRI 3 is composed of 22 social disclosure aspects and 9 environmental disclosure 9 aspects while economic disclosure has 2 aspects. Under the 22 aspects of social disclosure there are 40 disclosure performance indicators; therefore, aggregate disclosure on these 40 performance indicators gives total social disclosure. Environmental disclosure has 9 aspects and 30 performance indicators and disclosure on these indicators gives total environmental disclosure could be ascertained. Changes on these performance indicators and aspects in subsequent GRI versions and 2018 standards are fully incorporated in determining the social and environmental disclosure of sampled companies. For proper understanding of the social and environmental accountability of sampled listed Nigerian pharmaceutical companies, Table I compares annual total disclosed words 2009 to 2018 against economic and social and environmental disclosed words.

Table I: Comparison of Total, economic and Social and Environmental Disclosed Words 2009 to 2018

S/N	Years	Total Words	Social Words	% of Social Words from Total	Economic Words	% of Economic Words from Total
1	2009	19,156	2,698	14	16,458	86
2	2010	27,271	2,685	10	24,586	90
3	2011	33,521	3,579	11	29,942	89
4	2012	84,310	6,501	8	77,809	92
5	2013	103,260	6,665	6	96,595	94
6	2014	129,179	9,125	7	120,054	93
7	2015	105,902	4,013	4	101,889	96
8	2016	144,612	13,059	9	131,553	91
9	2017	173,628	14,003	8	159,625	92
10	2018	159,571	8,646	5	150,925	95
Total		**980,410**	**70,974**		**909,436**	
Percentages		100%	7.24%		92.76%	

From Table I, total disclosed words in the annual reports and accounts of all sampled companies in 2009 is 19,156 from which the companies devoted 2,968 words which is 14% to social issues while the remaining 16,458 words or 86% are disclosure on economic issues. Total disclosed words in 2010 is 27,271; while social disclosure has 2,685 words or 10%, economic disclosure has 24,586 representing 90% of the total. In 2011, total disclosed words are 33,521 from which social disclosure has 3,579 words which is 11% of the total while economic disclosure has 29,942 words or 89%. Total of 84,310 words are disclosed in 2012 from which social disclosed words are 6,501 or 8% while economic disclosure has 77,809 words; thereby accounting for 92% of the total. In 2013, sampled companies disclosed 103,260 words and social disclosure has 6,665 words or 6% while environmental disclosed words are 96,595 words or 94% of total disclosure. Sampled companies disclosed 129,179 words in 2014 from which social disclosure account for 9,125 words which is 7% of the total while economic disclosure has 120,054 words or 93%. In 2015, sampled companies disclosed 105,902 words devoting

4,013 to social issues and 101,889 to economic disclosure which represents 4% and 96% of total disclosure respectively. Total of 144,612 words are disclosed in 2016 from which 13,059 or 9% of total are social disclosure while 131,553 words or 91% are economic disclosure. In 2017, sampled companies disclosed total of 173,628 words from which social disclosed words are 14,003; thus, accounting for 8% of the total while economic words are 159,625 words or 92%. Sampled companies disclosed total of 159,571 words in 2018 devoting 8,646 words or 5% to social issues and 150,925 words or 95% to economic issues. Therefore, 2009 to 2018 the disclosure practices of sampled Nigerian pharmaceutical companies are majorly devoted to economic disclosure with few social disclosure and no environmental disclosure. Figure I aim to clearly show the trends of social and environmental accountability of sampled listed Nigerian pharmaceutical companies.

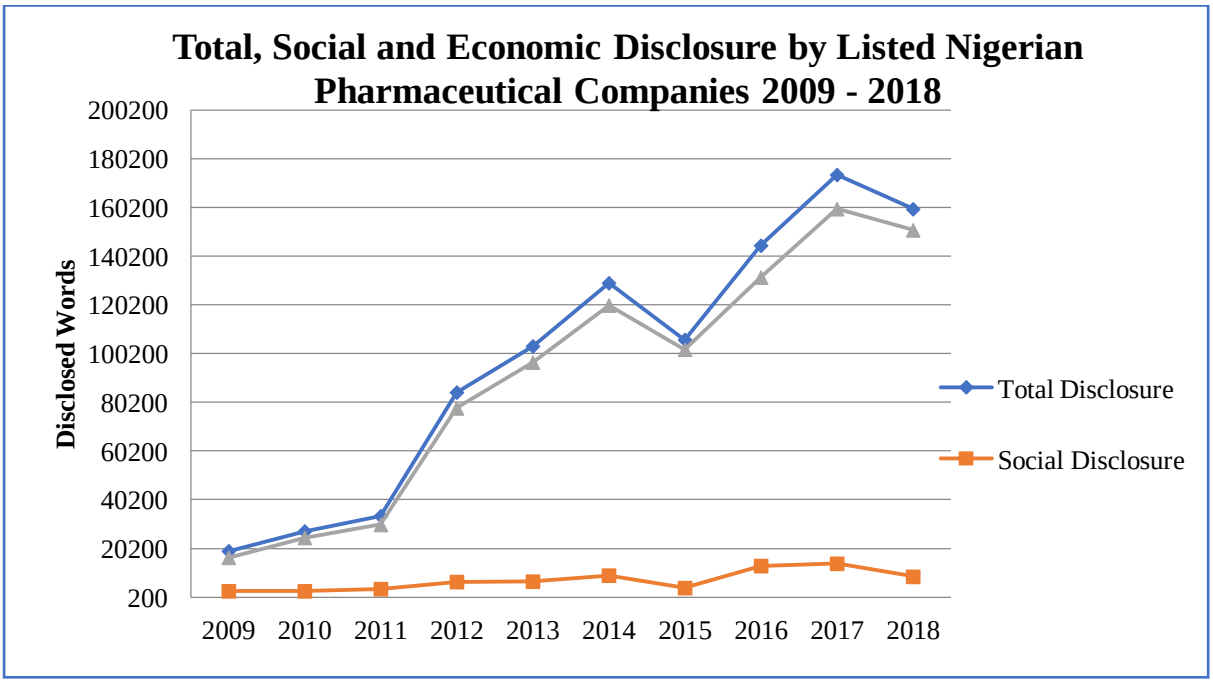

Figure I Total disclosed Words and Social and Environmental Disclosed Words 2009-2018

Figure I clearly show the fluctuating trends of the disclosure practices of sampled listed Nigerian pharmaceutical companies and the dominance of economic disclosure as depicted in Table I. Total disclosure practices showed increasing trends from 19,156 words in 2009 to 27,271 words in 2010, to 33,521 words in 2011, further increasing to 84,310 words in 2012 to 103,260 words in 2013 peaking at total of 129,179 words in 2014; then, sharply decreasing to 105,902 words in 2015. This decrease changed to increasing pattern in 2016 with 144,612 disclosed words further increasing to 173,628 words in 2017; then decreasing to 159,571 words in 2018. Trends of the disclosure also demonstrated the dominance of economic disclosure over social disclosure from total disclosed words 2009 to 2018. This trend is perhaps an indication that sampled listed Nigerian pharmaceutical companies are paying little or no attention to their social and environmental negative impacts. To further show this apparent lack of social and environmental accountability, Figure II compares total disclosure with social disclosure.

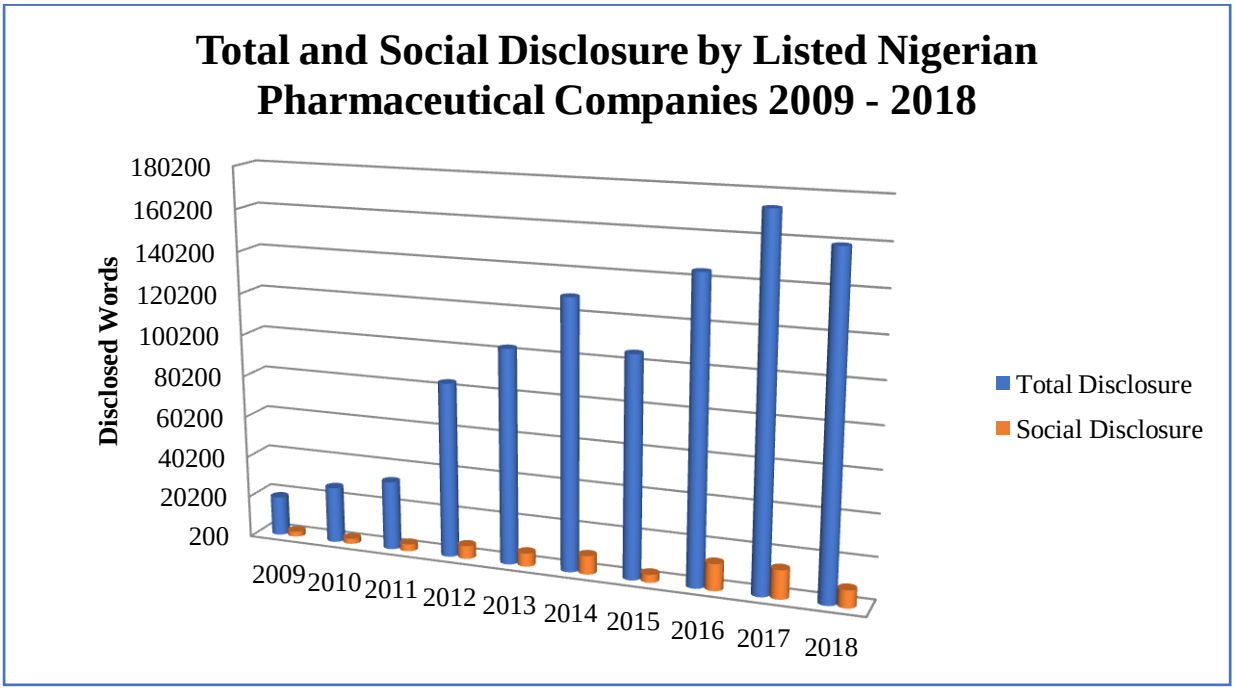

Figure II: Total Disclosed Words Compared with Social Disclosed Words by Sampled Companies 2009 to 2018

From Figure II, while 19,156 words are disclosed by sampled companies in 2009, total of 27,271 words are disclosed in 2010 representing an increase of 8,115 words or 42% over total words disclosed in 2009. Conversely, social words decrease to 2,685 in 2010 from 2,698 words disclosed in 2009 depicting a decrease of 13 words thereby implying that for every 624.23 words increase in total disclosure social disclosure decreases by 1 word. Total disclosed words in 2011 are 33,521 words which showed an increase of 6,250 words or 22.91% over 2010. Similarly, social disclosure increased to 3,579 words in 2011 showing an increase of 894 or 33.30% over 2010 disclosed words; thus, for about every 7 words increase in total disclosure social disclosure increases by 1 word. In 2012, total disclosure increased to 84,310 words indicating an increase of 50,789 words or 151.51% over 2011. Likewise, social disclosure increased to 6,501 words in 2012 signifying an increase of 2,922 words or 81.64% increase over 2011; hence, for every 17 words increase in total disclosure, social disclosure increases by 1 word. Total disclosure in 2013 is 103,260 words thereby indicating an increase of 18,950 words or 22.47% increase over 2012. Social disclosure in 2013 also increased to 6,665 words from 6,501 in 2012 representing an increase of 164 words or 2.52% over disclosed words in 2012. This is showing that for every 115 words increase in total disclosure social disclosure increased by 1 word. In 2014, total disclosed words are 129,179 words depicting an increase of 25,919 words or 25.10% increase over 2013. Social disclosure also increased to 9,125 in 2014 from 6,665 in 2013 which is an increase of 2,460 words or 36.90% increase over 2013. Consequently, for every 10.54 words increase in total disclosure, social disclosure increase by 1 word. In 2015, total disclosure decreased to 105,902 words indicating a decrease of 23,277 words or 18.02% decrease over 2014. Social disclosure in 2015 also decreased to 4,013 words from 9,125 in 2014; thus, a decrease of 5,112 words or 56.02% decrease over 2014 disclosure volume. This is implying that for every decrease in total disclosure by 4.55 words, social disclosure decreased by 1 word. Total disclosure in 2016 is 144,612 words indicating an increase of 38,710 words or 36.55% increase over 2015 total disclosure volume. Likewise, social disclosure in 2016 increased to 13,059 words from 4,013 in 2015, thereby indicating an increase of 9,046 words or 225.42% increase over 2015 disclosure. Hence, for every increase in total disclosure by 4.28 words, social disclosure increased by 1 word. In 2017, total disclosure was 173,628 words showing an increase of 29,016 words or 20.06% increase over 2016 disclosure volume of 144,612. Equally, social disclosure increased to 14,003 words from 13,059 words in 2016 which represents an increase of 944 words or 7.23%. Consequently, for every increase in total disclosure by 30.72 words, social disclosure increases by 1 word. In 2018, total disclosure decreased to 159,571 words showing a decrease of 14,057 words or 8.10% decrease over 2017 disclosure. In the same way, social disclosure decrease to 8,646 words in 2018 from 14,003 words in 2017 indicating a decrease of 5,357 words or 38.26% decrease. Accordingly, for every decrease in total disclosure by 2.62 words, social disclosure decrease by 1 word. On the overall, in all the years of 2009 to 2014, 2016 and 2017 total disclosure showed significant increases over social disclosure with the least variance of 4.28:1 occurring in 2016 against

2015. On decrease in total disclosure, the least decrease of 2.62 words in 2018 against 2017 was accompanied with 1 word decrease in social disclosure which is over 38% of decrease in total disclosure. Social disclosure is composed of many aspects; thus, it may perhaps be of significance to reveal the most disclosed aspects as in Figure III.

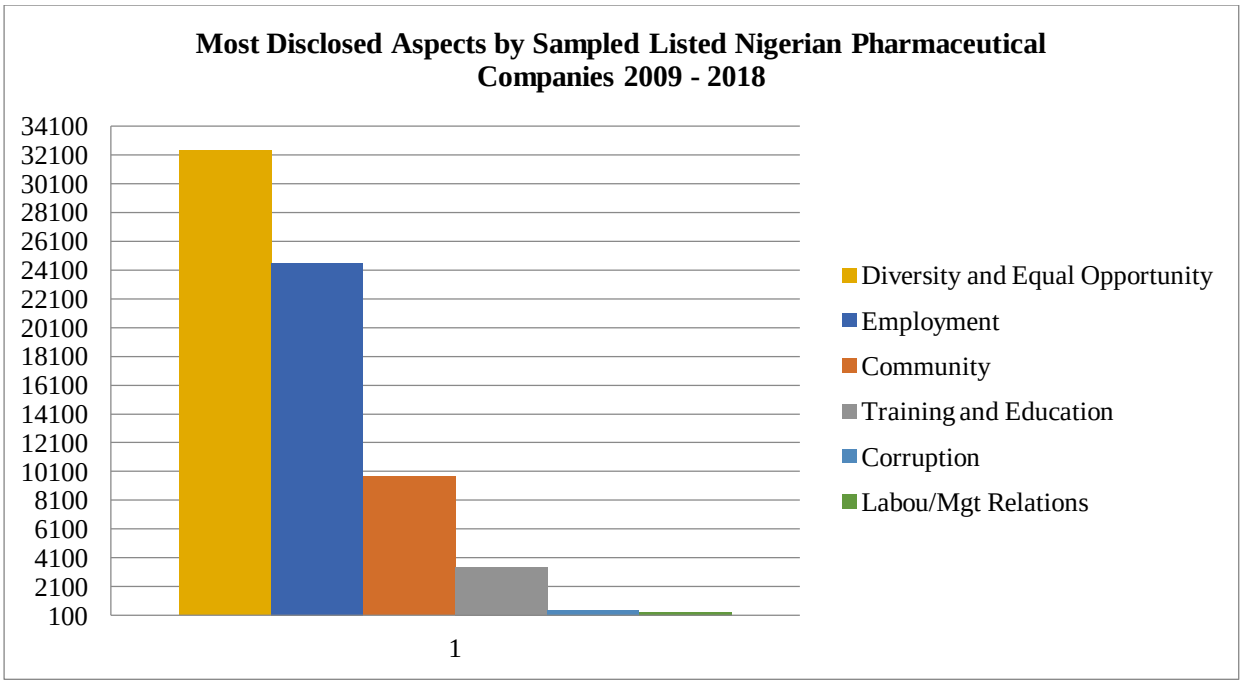

Figure III: Most Disclosed Aspects of Social Disclosure by Sampled Listed Nigerian Pharmaceutical Companies 2009 – 2018.

From Figure III, the most disclosed aspect of social disclosure is Diversity and equal opportunity with 32,378 words or 45.62% of total 70,974 disclosed social words 2009 to 2018. The second most disclosed aspect of social disclosure is Employment with 24,556 words or 34.60% of total social disclosure over the period of the study. The third most disclosed aspect is community with 9,757 words or 13.75% of total social disclosed words while the fourth most disclosed aspect is Training and education with 3,462 words representing about 4.90% of total social disclosure. The fifth most disclosed aspect is Corruption with 480 words or about 070% of total social disclosure. The sixth and least most disclosed aspect is Labour/management relations with 341 words or about 0.50% of the total social disclosure over the period of the study; next section discusses results of the study.

V. DISCUSSION AND CONCLUSIONS

This section discusses results presented in the preceding section within the context of existing literature, theory and practice. This is done with a view to revealing new findings or validating what are already known on social and environmental disclosure by Nigerian pharmaceutical companies in particular, Nigeria or the practice in general. Results in Table 4.1 indicated that social disclosure account for 70,974 words or about 7.24% only out total disclosed words of 980,410 words 2009 to 2018, This result is perhaps too low which is consistent with [65] that reported sampled companies as not inclined to social disclosure. Similarly, the result is consistent with [70] that reported social and environmental disclosure by Nigerian manufacturing companies as being too low. However, the result is inconsistent with [69] that found community involvement which is an item of social disclosure as the most disclosed. Similarly, results from Table I indicated that sampled Nigerian pharmaceutical companies do not make any disclosure relating to environmental issues. This result perhaps contradicts [68] that found positive statistical relationship between corporate social and environmental disclosure and financial performance of listed Nigerian pharmaceutical companies thereby implying environmental disclosure. Similarly, the result is inconsistent with [69] that found little disclosure on environment; hence, classifying it as the least disclosed issue. The prevalence of social and environmental negative effects of the Nigerian pharmaceutical industry is documented [57 58 59 121 31 60]. Therefore, few social disclosures and absence of environmental disclosure by sampled companies is perhaps indicating that stakeholders interested in social and environmental accountability are not considered instrumental and sampled companies do not consider it a moral duty to provide social and environmental accountability. Conversely, the dominance of economic disclosure accounting for

92.76% is an indication that sampled companies have considered stakeholders interested their financial performance more important consistent with [67]. Consequently, this pattern of disclosure is better explained by the stakeholder theory [68 70]. Results in Figure 4.1 indicated increasing trends of economic and social disclosure by sampled companies 2009 to 2014. However, in 2015 the disclosure volume fell down perhaps significantly by 25.10% for economic disclosure and 36.90% for social disclosure. This decrease in economic and social disclosure could be better explained by political apprehensions due to the general elections held in the year resulting in capital flight and slowing down of economic activities resulting to recession [142 143]. However, economic and social disclosure increased in 2016 and 2017 then felling down in 2018 which could be again be attributed to the serious economic effects of anxiety over the country's general elections slated for early 2019 [144]. There are no previous studies that looked into the trends of social and environmental disclosure in the Nigerian pharmaceutical industry; thus, this could be a new finding in the industry. However, the fluctuating trends of disclosure attributed to the Nigerian political landscape [144 142 143] is consistent with [83] that reported fluctuating patterns of disclosure linked to 2007 and 2011 general elections. Results from the trends of the disclosure indicated that all increases in economic disclosure are accompanied by increases in social disclosure. Similarly, decreases in economic information also results in decreases in social information. Hence, economic stakeholders probably considered as instrumental to operations of sampled companies influences social disclosure and this better elucidated by stakeholder theory [69 70].

Results in Figure 4.2 are depicting the magnitude of variations between economic and social disclosure. On the overall, economic disclosure varies more significantly than social disclosure which is again indicating that stakeholders interested in economic information are more important in consistence with [67] than stakeholders interested in social and environmental accountability. Looking at the social disclosure, variations in disclosure volume year in year out is not significant. To the best knowledge of this study there are no previous studies in Nigeria that attempted measuring variations between economic and social disclosure or measure the variations in social disclosure on annual basis. This could perhaps be another new finding in the social and environmental accountability of the pharmaceutical industry and Nigeria in general. The wide variations in disclosure between economic and social disclosure as depicted in Figure 4.2 is perhaps explained by stakeholder theory [69 71]. Results in Figure 4.3 indicated that disclosure on all the six aspects are of interest to stakeholders considered as primary stakeholders [145 118] who are considered important; therefore, must be provided with information of interest to them. The finding is consistent with [84] that found sampled companies making more disclosure on these aspects and [66] that reported sampled companies making more disclosure on community. Disclosure on issues of interest to primary stakeholders considered very important by corporate organizations is better understood using the lens of stakeholder theory [68 69].

However, it is important to note that if all the ten listed pharmaceutical companies are studied which availability of online annual reports limit in this study, different results could be obtained. Similarly, the time frame of conducting this study, use of word count content analysis to obtain data, the use of descriptive tools to analyse collected data and the employment of stakeholder theory to underpin the study could be varied which may lead to obtaining results, findings and conclusions different from this study. From preceding discussions, it could be concluded that sampled listed Nigerian pharmaceutical companies are providing not providing adequate accountability on their social and environmental impacts as there few social disclosure with trends flucatuating in the direction of economic disclosure and the disclosures are not reflecting practical social and environmental problems in the industry. Similarly, the companies are paying more attention to economic disclosure for the benefit of their financial stakeholders. Likewise, it could be concluded that disclosure by sampled companies is influenced by the Nigerian political landscape as demonstrated by declining disclosure volumes in all years that are ahead of general elections. In view of the reported numerous social and environmental negative impacts of the Nigerian pharmaceutical industry and the apparent low levels of disclosure on these; government should regulate social and environmental disclosure in the industry as they are dealing with human lives. Similarly, operators in the industry should come to terms with best global practices and efforts at overcoming the negative effects of the industry and inculcate these in annual reporting's.

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