Social and Environmental Information Disclosure Quality Versus GRI, G3 Sustainability Quality Reporting Principles: A Sectoral Analysis

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Abstract

Social and environmental information disclosure (SED) of listed companies in Nigeria is perceived as unreliable disclosure which lack quality attributes required for making healthy business decision. Poor quality SED usually creates information asymmetry that denied investors certain information that often influenced investors to patronize equity of sustainability friendly companies. Based on this backdrop, this study examined SED quality of Listed Companies in Nigeria (LCN) based on GRI, G3 sustainability quality reporting framework. Ex-post-facto research design was employed to collect data from annual report of fourty-seven (47) LCN. Statistical analysis of one-sample t-test employed in the study revealed that SED quality of LCN differ from information quality attributes identified in GRI, G3 quality reporting framework. The study concluded that SED of LCN do not satisfy sustainability information quality identified in GRI, G3 reporting framework. This means that sustainability information disclosure of LCN do not follow international best practice required for making healthy business decision. This study recommends that regulatory bodies should partner with academics and professional in Nigeria to develop an acceptable SED quality framework that mirror GRI, G3 quality reporting guideline to improve SED quality of LCN and thus enhance their competitive advantage.

Keywords: GRI, Performance indicators, GRI, G3 quality reporting principles, One-sample t-test, SED quality of LCN

I. INTRODUCTION

Social and environmental damages caused by activities of companies are perceived by investors and other stakeholders as threat to business survival. This perception propelled stakeholders to seek for substantive social and environmental information disclosure (SED) for making informed business decision. Given the increasing demand and the growing attention the concept received from international institution such as Global reporting initiatives, companies all over the world including listed companies in Nigeria (LCN) embraced the concept and increasingly participated in the disclosure of self-developed social and environmental information in the annual report (Okpala, 2019). However, self-developed SED in the annual report of LCN are criticized for lack of quality attributes similar to information

quality attributes identified in Global Reporting Initiative (GRI, G3) sustainability quality reporting framework. GRI, G3 quality reporting framework mirror financial reporting quality Guidelines found in Financial Accounting Standard Board (FASB, 1980) and International Accounting Standard Board (IASB, 2010) framework.

GRI, G3 quality reporting framework unified and standardize companies SED to permit healthy business decision, performance measure and ensure comparability of SED within and between peer in the same industry. However, the self-developed SED is an unregulated and an informal approach to sustainability practices which create disclosure discrepancies that hindered stakeholders to understand similarity in performance and compare sustainability performance overtime among peer in the same industry. Self-developed SED are perceived as irrelevant disclosure because concern and reasonable expectation of stakeholders are sometimes not adequately addressed. SED which lack substantive quality attribute may damage reputation of the reporters, cause competitive setback that can lead to divestment and hostility against the company in the host communities.

Available SED studies in Nigeria (Nweze & Nwadialor, 2020; Okpala, 2019; Muhammed, 2018; Haladu & Salim, 2017) have investigated SED volume of LCN and identified progressive increase in the volume of SED in the annual reports. However, volume disclosure is not a satisfactory replacement of quality attribute required in SED, because volume disclosure may lack information attributes such as balance, comparability, relevance, sustainability context, clarity, reliability and timeliness required for making healthy business decision (Beretta & Bozzollan, 2004). Based on the foregoing, this study therefore, examined social and environmental information disclosure quality of LCN based on GRI, G3 quality reporting principles. The objective is to investigate if social and environmental information disclosure quality of LCN does not differ from GRI, G3 quality reporting principles. GRI, G3 quality principle is a generally accepted quality framework employed to examine decision usefulness of SED in the annual reports. To achieve this study objective, the following hypothesis stated in null form were put forward and tested.

H_0: Social and environmental disclosure quality of LCN does not significantly differ

from GRI, G3 sustainability quality reporting principles.

The study covered forty-seven (47) social and environmental sensitive companies listed in seven sectors in the Nigerian Exchange Group (NGX). The study covered period when code of corporate governance was reviewed (2011) to the period prior to the appearance (2019) of Corona-virus disease (COVID-19) pandemic. The reason for the choice of the period covered is to examined quality of SED of LCN between the period when sustainability was embraced in Nigeria to period before the appearance of COVID-19 pandemic

The remaining part of the study is organized in the following order; section two of the study contained literature review, section three described methodology of the study, section four present empirical results and discussion of findings, section five presents conclusion and recommendations.

II. LITERATURE REVIEW

Social and Environment Disclosure

Social and environmental information disclosure (SED) is a process by which all categories of social and environmental impacts of companies' activities on people, environment and society are identified, and adequately communicated to relevant stakeholders in society (Leitoniene & Sapkauskiene, 2015).

Social and Environment Information Disclosure Quality

Social and environmental information disclosure quality (SEDQ) entailed the ease with which user of reports can read, understand, interpret and relied on social and environmental information disclosure in the annual reports for making healthy business decision (Boiral, Herassaizarbitoria & Brottherton, 2019). Whittington and Ekara (2013) described SEDQ as information that embodied attributes such as relevance, reliability and comparability in its content. Whittington *et al*., (2013) explained that social and environmental information (SEI) is reliable and comparable if information in the disclosure satisfies the explicit and implicit users and can be relied upon and compare with company's previous SED and disclosure between companies over time.

Following the same thinking, Cormier, Ledoux and Magnan (2010) define SEDQ in term of reliability, relevance and value of the information reported. Cormier *et al*., (2010) clarified that reliability and relevance of disclosure is an indication of quality in

SED which usually assist market participants to make better earnings forecast.

Moreover, Olaoye and Oluwadare (2018) defined SEDQ as a disclosure comprising of information required for analyzing social and environmental performance of an entity. Baalouch, Ayadi and Hussainey (2019) disclosed that definition ascribed to SEDQ varies due to voluntary and unregulated character of SED, consequently, researchers in this field employed different constructs to describe SEDQ, hence the discrepancies in the definition of SEDQ. Baalouch *et al*., (2019) revealed that constructs employed by some researchers are criticized for failure to link the constructs used to any sustainability quality attributes identified in international framework such as IASB (2010) and FASB, (1980). Baalouch, *et al*., (2019) therefore concluded that it would be reasonable to draw on recognized sustainability quality reporting framework such as Global Reporting Initiative G3 which mirror financial reporting quality framework to define meaning of SEDQ. IASB and FASB reporting quality framework are developed to meet the needs of shareholders, however, information attributes in the two frameworks are of significant relevant to other stakeholders such as employee, suppliers, customers, local communities among several others. Consequently, an obvious beginning for defining sustainability quality disclosure is the IASB or FASB quality reporting framework. Berretta and Bozzollan, (2004) stressed that stakeholders are likely to demand for similar information attributes in SED as they do for financial reporting when assessing decision usefulness of SED in the annual report. Berretta, *et al*., (2004) concluded that SEDQ should have information attributes similar to financial reporting quality attributes provided in IASB and FASB.

Similar to Beretta and Bozollan, (2004), Balouch, *et al*., (2019), Rahman, and Ismail, (2016) and Gray, Owen and Adam (1996) supported the argument that characteristics provided in financial reporting quality framework should be employed when defining meaning of SEDQ.

Based on the foregoing and following the argument of researchers in this field social and environment information disclosure quality is defined in this study based on quality reporting principles (balance, comparability, relevance, reliability sustainability context, clarity and timeliness) identified in GRI, G3 quality reporting framework. Consequently, GRI, G3 quality reporting framework form the basis upon

which SEDQ of LCN are measured in this study.

Global Reporting Initiative

The historic corporate accountability failure exemplified in the case of Enron and Worldcom, the Global financial crisis and the social and environmental challenges such as Global warming, labour injustice, hostility in the host communities and human right violation has propelled investors and other stakeholders to continue the demand for greater corporate accountability and transparency in the form of substantive disclosure of social and environmental information in the annual report (Amran, Bin & Hassan, 2009). Following this demand, companies all over the world progressively participated in SED, which were largely criticized for lack of basic quality required for making healthy business decision. However, stakeholders perceived SED as mere public relation exercise designed to build corporate reputation and to window dressed book value (Dissanayake, Tilt & Xydias-lobo, 2016). The criticism led to appearance of international sustainability reporting framework such as GRI established in 2000, to unify and standardize SED in order to facilitate comparability of SED within and between companies in different sectors of economy. Chelarin, Dicu, Mardiros and Pavaloaia, (2017) and KPMG, (2013) disclosed that high profile character, global acceptability and regular reflection of emerging social and environmental challenges arising in the business environment led to voluntary adoption of GRI by companies including LCN. In 2006 the body developed GRI, G3 sustainability quality principles to address comparability and other quality challenges observed in the early version one (1) and two (2) of the framework.

Global Reporting Initiative, G3 quality Reporting principles

Global Reporting Initiative (GRI) G3 standard was established in 2006 to provide guidelines for reporting quality SED that will meet information needs of stakeholders (GRI, G3 2006). GRI, G3 quality reporting framework is an information quality benchmark established to monitor quality of information in SED of all categories of companies. The reporting principles was established as a reference framework for reporting quality social and environmental information required for making healthy business decision (Marimon, Alonzo-Almedia, Rodriques, & Alejandro, 2012). GRI, G3 is the prominent sustainability guideline established after the launch of Code of Corporate Governance (CCG) for

listed Companies in Nigeria (LCN) in 2004. Up till 2011 when CCG was reviewed, GRI, G3 remained the distinguished SED quality reporting guideline in use and the only sustainability disclosure quality principle employed by companies across different jurisdiction. GRI, G3 quality principles remain the same and unchanged in the new sustainability reporting guidelines developed in 2011 and 2013. GRI, G3 version has increasingly add credibility to SED process due to consistency identified in the quality attribute provided in the framework and the manner with which the attribute aligned with IASB (2011) and FASB (1980) financial reporting quality (Qiu, Shaukat & Tharyan, 2016). GRI, G3 Guideline enable stakeholders to understand the level to which SED in the annual reports are informative.

GRI, G3 framework comprises of two set of reporting principles namely: (i) performance indicators for defining reporting content and (ii) information attributes for ensuring quality SED. Performance Indicators (PI) are grouped into environmental and social. Environmental PI covers input and output performance. Input performance classified as internal dimension is concerned with company consumption efficiency in term of material, energy, water, and product and service. Output performance classified as external dimension deal with influence on biodiversity, impact minimization of effluence and waste and emission. With regards to social performance indicators (PI), items under this indicator comprises of internal and external PI. The internal reflect the interaction between companies and internal stakeholders such as employee and shareholders, while external PI demonstrated how companies addresses matter that concern external stakeholders such as local communities, suppliers, creditors, customers and government.

Items classified as internal and external social and environmental PI are presented in Table 1 and 2 as follow:

Table 1: Internal and External Environmental Performance Indicators

List of (GRI, G3) Internal Environmental Performance Indicators	List of (GRI, G3) External Environmental Performance Indicators
Internal Indicators	**External Indicators**
Material EN 1 (Core), EN 2 (Core)	**Biodiversity** EN 11 (use of land), EN 12 (Core)
Energy EN 3 (Dir. energy), EN 4 (renewable energy), EN 5 (Core)	**Compliance with legislation** EN 28 (Core)
Water management EN 8 (Core), EN 21 (Core)	**Emission** EN 16, EN 17, EN 19, EN 20
Product and Services EN 26 (Core), EN 27 (Core),	**Effluence & Waste** EN 22 (hazardous waste), EN 23 (spills & hazardous)

Source: GRI, G3 (2006)

Table 1 presents four (4) internal and four (4) external environmental core performance indicators as identified in GRI, G3 sustainability reporting framework.

Table: 2: Internal and External Social Performance Indicators

List of (GRI, G3) Internal Social Performance Indicators	List of (GRI, G3) External Social Performance Indicators
Internal Indicators	**External Indicators**
Aspect: Employment LA 1 (Core), LA 2 (Core), LA 15 (Core)	**Aspect: Local communities** SO 1 (Core), SO 9 (Core), SO10 (Core)
Aspect: Labour/Management Relation LA 4 (Core), LA 5 (Core)	**Aspect: Corruption** SO 2 (Core), SO 3 (Core), SO 4 (Core)
Aspect: Occupational Health and Safety LA 7 (Core), LA 8 (Core)	**Aspect: Public Policy** SO 5 (Core), SO 6 (Core)
Aspect: Training and Education LA 10 (Core)	**Aspect: Compliance** SO 8 (Core)
Aspect: Diversity & equal opportunity LA 13 (Core)	**Aspect: Customer health & safety** PR 1 (Core)
Aspect: Equal remuneration for women and men LA 14 (Core)	**Aspect: Product & service labeling** PR 3 (Core)
Aspect: Investment & procurement practices HR 1 (Core), HR 2 (Core), HR 3 (Core)	**Aspect: Marketing communication** PR 6 (Core)
Aspect: Non-discrimination HR 4 (Core)	
Aspect: Freedom of association & collective bargaining. HR 5 (Core)	
Aspect: Child Labor /Force and compulsory labor HR 6 (Core), HR 7 (Core)	

Source: GRI, G3 (2006)

Table 2 presents the ten (10) internal and seven (7) external social performance indicators as identified in GRI, G3 sustainability reporting guidelines.

Sustainability information attributes for measuring quality of information in SED as provided in GRI, G3 framework include: Balance, comparability, reliability, relevance, sustainability context, timeliness and clarity principles. The attributes are discussed as follows:

Table: 3: Sustainability Information Attributes for Measuring Quality of Information in SED

Balance:	The principle of balance disclosure required companies to demonstrate in the sustainability reports the current and future challenges, successes and unfavourable sustainability events. Balanced SED should be devoid of selection, omission and sustainability presentation that may unduly influence judgment of the users (GRI, G3 2006)
Comparability:	Report comparability implies that information in the SED be presented in manner that allowed stakeholders to analyze changes in sustainability performance of a company overtime, and relate the disclosure to target or to peers in the same industry (GRI, G3 2006)
Reliability:	SED is reliable if the processes used in preparing the information can be subjected to third party verification other than the preparer. Sustainability information is also reliable if the disclosure contains statement from the most senior decision maker in the company, disclose initiatives employed to reduce social risk and environmental impact of company's activities and disclosure indicating third party attestation (GRI, G3 2006)
Timeliness:	Sustainability timeliness requires that social and environmental information released should reach the users domain before it losses capacity or value to guide business decision making. Timeliness of SED occurs when report is made available at a fixed interval for stakeholders to make an informed business decision.
Relevance:	SED is relevant when different concerns (including those represented by proxy) expectations and decision making needs of stakeholders are continually identified and addressed (GRI, G3 2006). SED are considered relevant when stakeholders' engagement process conducted by company are indicated, type of stakeholders engaged, when and how it engaged them. The report should reflect how the companies respond to the concern of the stakeholders.
Clarity:	Social and environmental disclosure is clear when the information is presented in a manner that is understandable, accessible and useable to users. Clarity principle also required that stakeholders should be able to locate in the report easily the desired sustainability information without unreasonable effort.
Sustainability context:	This requires that SED of should be presented in a manner that would represent sustainability performance of companies in a wider context.

Source: Authors' Compilation (2022)

Theoretical framework

This study is anchored on signaling theory as it examined quality of social and environmental information disclosure of LCN based on GRI, G3 quality reporting framework. Spence (1973) argued that the need to distinguished between sustainability friendly companies from sustainability unfriendly companies by socially

responsible investors and other stakeholders constituted the reason companies voluntarily signal un-noticed sustainability performance in the annual report to build their image and reputation and gain market competitive advantage. According to Spence (1973) companies whose social and environmental performance is superior to peers in the same industries adequately signal this superior sustainability achievement to build their reputation, earn trust and confidence of investors and attract investment fund of investors. The theory suggests that adequate disclosure of information on sustainability litigation, health and safety risk information on communities and employee earn companies trust and confidence of investors and other stakeholders. The central thesis behind signaling theory is to reduce information asymmetry that often denied stakeholders certain risk information such as health and safety risk on local communities. Listed companies voluntarily disclose quality sustainability information to earn investor's confidence of investors which may translate to enhanced Goodwill and market competitive advantage.

Empirical Review

This study reviewed previous studies in order to add to the body of knowledge and to provide a general understanding of the SEDQ practices of companies across different jurisdiction

Beretta and Bozollan (2008) designed a study that examined sustainability disclosure quality of companies listed in the Italian Stock Exchange. The study employed quantity and richness of disclosure to proxy SED quality of companies studied. Findings of the study revealed that SED of studied companies failed reliability test because sustainability information in the annual reports are not subjected to competency tests by external bodies.

Isa, (2014) applied GRI, G3 reporting guidelines to measured level of SED of companies listed in the consumer goods sector in NSE. Findings revealed that SED of companies is in narrative form and dominantly of positive news while negative news are rarely reported. The study focused only companies listed in the food and beverages sector.

Study conducted by Habek and Wolmak (2015) comprising of six (6) European Union member states revealed that sustainability items listed under relevance principle are substantively disclosed than items (clarity, accuracy, reliability) listed under credibility principle. The study is

limited by only member states in European union it focused.

Study by Onyali, Okafor and Onodi, (2015) explored stakeholder perception of the quality of SED in the annual report of LCN. Findings revealed that stakeholders are dissatisfied with attributes of the sustainability information in the annual report with regard to relevant and credibility of the report.

Haladu and Salim, (2017) conducted a study that examined the level of SED and the difference between social and environmental disclosure practices among six (6) listed sensitive industries in Nigeria based on GRI, G4 reporting framework. Findings revealed that both sustainability dimensions investigated are substantively reported but, social issues are more focused than environmental matter. However, disclosure on community performance are inadequately reported, suggesting that reputations of the studied companies are at stake as this may affect their productivity and growth potential.

Study of Diouf and Boiral (2017) revealed that embracing GRI, G3 guideline usually add value to SED released in the annual reports and also standardize social and environmental information disclosure of company. However, the principles employed for determining the quality of SED are minimally applied in practice among the companies studied.

Diouf and Boiral (2017) further revealed that reports of the studied companies, lack timeliness and precision and method of measurement used are ambiguous. The author expressed a concluding remark that claims by the studied companies that GRI reporting framework are adopted are reflection of impression disclosure designed at enhancing the image of the company.

Qiu, (2017) explored SED quality of fourteen (14) companies in China based on GRI, G3 quality reporting principles comprising of accuracy, balance, comparability, reliability and clarity indexes. Findings revealed that China does not have systematic SED guidelines, as styles and methods of reporting vary across the studied reports. Study revealed that SED is presented in a selective manner and performance indexes used across the report analyzed differ in content and structure, rendering the report unreliable and incomparable for users.

Social information disclosure quality among companies in Croatian was investigated by Persic and Lahorka (2018). Grounded on

GRI, G3 quality reporting principle, the study uncovered minimal social information disclosure quality among the companies studied. Extant literatures reviewed concerning SED quality of list companies revealed that greater number of studies focused volume of disclosure while quality of disclosure is left unexplored.

However, SED volume according to Reverte, (2014) is not a satisfactory replacement or proxy for SED quality. Based on the foregoing, the need to investigate quality of SED in the annual report of LCN become sacrosanct. Additionally, bodies of studies available on SED quality revealed that greater number of SED quality studies are conducted in developed countries and have earned companies in this part of the world improved goodwill, higher reputation and strong competitive advantage. However, findings of studies in developed countries cannot be applied to companies in Nigeria due to data constrained, stage of development and rule and regulation. Hence, the need to investigate SED quality of listed companies in Nigeria (LCN). Methodologically, most SED studies reviewed used unweighted binary number of 1 and 0 which Beretta and Bozollan (2008) criticized. Beretta *et al*., (2008) argued that binary number is specifically designed to measure disclosure volume. This study used weighted numerical scoring scale to measure SED quality of LCN based on GRI, G3 quality reporting framework.

III. METHODOLOGY

The study is based on ex-post-facto research design aimed at measuring social and environmental information disclosure quality of LCN based on GRI, G3 quality reporting principles. The design is most appropriate when observation is conducted under normal field condition and in which the researcher does not have control over the variables under study (Cormier *et al*., 2010).

Population of this study is defined in term of seventy-six (76) companies listed in seven sectors classified by Nigeria Exchange Group (NGX) as social and environmental sensitive sectors. Activities of companies listed in these sectors impact heavily on society hence this propelled them to embrace and participate in disclosure of quality SED to gain market competitive advantage.

Sample size for this study is fourty-seven (47) obtained after fifteen (15) companies were excluded from sample size (sixty-two (62)) determined based on Krejcle and Morgan (1970) sample table. Companies

were excluded from sample due to failure to satisfy condition such as availability of sustainability disclosure in the annual report, timely released of SED at an interval that follow regular circle and failure to be listed in the NGX throughout the study period. Sample companies selected are based on the following NGX stratification: Agriculture, Construction and Real Estate, Consumer Goods, Health Care, Industrial Goods Natural resources and Oil and Gas Sector.

The study relied on data from annual report. Five (5) points numerical scoring scale is employed to quantify SED sentence reported in the annual reports. The five points scale take the following order, zero score (0) for non-availability of quality attribute in SED, one (1) for attribute described in general term, two (2) for describing SED in specific detail, score three (3) for SED in non-monetary quantitative term, and four (4) for SED in monetary quantitative term.

IV. DATA ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive statistics employed in this study provide summary statistics measure of SED quality in the annual report. In addition, inferential statistics based on one-sample t-test was employed to measure the significant mean difference between SED quality of LCN classified into internal and external sub-dimension and GRI, G3 sustainability quality reporting principles.

Table 4: Descriptive Statistics of Variables of Internal and External Social and Environmental Information Disclosure Quality

	Material sustainability qty.	Energy sustainability qty.	Water management sus.	Product and service	Labour management relation	Occupation health and safety	Training & Education	Diversity & equal opportunity	Equal Remuneration	Investment & Procurement	Nondiscriminati on	Freedom of association	Child labor	Employment sustainability	Biodiversity	Legislation	Effluence & waste	Emission	Local communities	Customer health	Product service labeling	Mkt communication	Public policy	Corruption	Compliance sustainability
Mean	11.63213	6.596386	6.021084	10.78614	10.80422	15.88554	16.60241	11.68675	7.051205	1.283133	7.810241	7.789157	1.623494	19.61747	1.963855	2.218729	6.90361	6.60843	17.93072	9.222892	7.810241	4.698795	10.86446	11.15964	1.945783
Median	12.50000	7.0000006	6.000000	12.00000	12.00000	16.00000	17.00000	12.00000	6.000000	0.000000	7.000000	6.000000	0.000000	21.00000	0	0.207588	6	6	21	12	7	0	11	12	0
Maximum	26.00000	20.00000	17.00000	16.00000	12.00000	24.00000	22.00000	18.00000	12.00000	6.000000	21.00000	12.00000	16.00000	24.00000	17	6	20	18	22	21	21	19	21	20	23
Minimum	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0	-0.661461	0	0	0	0	0	0	0	0	0
Std. dev	10.21396	6.368805	5.862692	2.435771	2.341194	4.788471	4.336147	3.532936	2.279642	2.463869	5.447648	4.467148	3.638472	4.254878	3.744711	2.833684	6.10555	5.99625	6.286082	5.021857	5.447648	5.736373	4.699071	3.665195	5.734041
Skewness	0.141723	0.413554	0.482104	-1.11969	-1.546011	-0.09638	-0.58102	-0.25712	1.673078	1.395739	-0.08794	-0.54208	2.314152	-2.16868	2.213255	0.58375	0.26708	0.24863	-1.839063	-0.591241	-0.087938	0.713162	0.147837	-1.179255	2.724236
Kurtosis	1.552031	1.791043	1.989338	2.891204	3.436843	1.747389	2.316981	2.415507	3.886390	2.948087	2.276162	1.979101	7.682858	6.934885	7.446206	1.349638	1.83288	1.68023	5.126059	2.873742	2.276162	2.071333	2.556895	4.904051	8.714117
Jarque-Bera	30.11455	29.68197	26.99070	69.53479	134.8950	22.21897	25.13330	8.383992	165.7572	107.8314	7.675763	30.67743	599.6798	474.4287	544.5179	56.53339	22.7903	27.5153	249.6742	19.56314	7.675763	40.07273	3.925415	127.1004	862.3281
Probability	0.000000	0.000000	0.000001	0.000000	0.000000	0.000015	0.000003	0.015116	0.000000	0.000000	0.021539	0.000000	0.000000	0.000000	0.0000	0.000000	0.0000	0.0000	0.0000	0.000056	0.021539	0.0000	0.140478	0.0000	0.000
Sum	3861.867	34531.59	1999.000	3581.000	3587.000	5274.000	5512.000	3880.000	2341.000	426.0000	2593.000	2586.000	539.0000	6513.000	652	736.6181	2292	2194	5953	3062	2593	1560	3607	3705	646
Sum Sq. Dev	34531.59	13425.92	11376.85	1963.816	1814.274	7589.651	6223.518	4131.422	1720.130	2009.386	9823.045	6605.241	4381.937	5992.419	4641.566	2657.853	12338.9	11901.1	13079.41	8347.506	9823.045	10891.88	7308.901	4446.539	10883.02
Observation	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376	376

Source: Authors' Computation (2022)

Table 4 presents the descriptive statistics of internal and external social and environmental variables covering 47 LCN listed in seven sectors. With regard to internal environmental information disclosure quality, results of material (11.63), energy (6.59), water management (6.021) and product and service (10.78) yielded scores lower than standard (26) identified in GRI, G3 quality reporting principle. However, quality of material disclosure is the most substantive disclosure while the least disclosure quality is recorded in water management (6.021). Considering the items classified as internal social disclosure, quality of disclosure varies from quality attribute identified in GRI, G3 quality reporting principle. However, information quality of employment (19.61) and training and education (16.60) are substantively reported. The least information disclosure quality is identified in child labour (1.62) and investment and procurement (1.28).

As for external items, environmental information disclosure quality varies from standard identified in GRI, G3. However, information quality of effluence and waste (6.903), emission (6.608) are substantively disclosed, while biodiversity (1.963) and legislation (2.218) information disclosure quality are poorly reported. With regard to external social items, information disclosure quality varies from the standard identified in GRI, G3. However, descriptive statistic in the Table 4 show that information disclosure quality (IDQ) of local communities (17.93), corruption (11.15) and public policy (10.86) are substantive, while compliance IDQ are least reported. It is worthy to mention that quality of social information disclosure are more substantive than environmental disclosure.

Inferential Analysis: Test of Hypotheses

In an attempt to answer objective of this study, a one sample t-test statistical analysis was conducted to examine if SED quality of LCN differ from sustainability information quality identified in GRI, G3 reporting framework. The results of one sample t-test are presented in Table 5, 6, 7 and 8 indicating the mean score, the t-score and the significant value.

Table 5: One Sample T-Test Results of Internal Environmental Information Disclosure Quality and GRI, G3 Quality Reporting Principles

Variable	Obs	Mean	SD	Degree of freedom	t-score	Sig
Internal environmental information disclosure quality	376	376.633	409.6096	375	33.029	0.0000
GRI, G3 information quality reporting principles	376	1518.787	773.2865			

Source: Authors' Computation (2022)

The statistical result of one sample t-test presented in Table 5 indicated t-value of 33.029 at a significant value of 0.000. This result is interpreted to mean that internal environmental information disclosure quality (IDQ) of the studied LCN differ from quality principles identify in GRI, G3 reporting framework. Relying on the result demonstrated in Table 5, there is sufficient evidence to reject the null hypothesis that SED quality of LCN does not significantly differ from GRI, G3 quality reporting principles. Also, statistical evidence show that the mean value yielded for internal environmental IDQ (376.633) of LCN varies significantly from standard mean score (1,518.787) identified with GRI, G3 sustainability quality reporting standard. Based on this result therefore we concluded that significant different exist between internal environmental IDQ of LCN and GRI, G3 sustainability quality reporting principles.

Table 6: One Sample T-Test Results of Internal Social Information Disclosure Quality and GRI, G3 Quality Reporting Principles

Variable	Obs	Mean	SD	Degree of freedom	t-score	Sig
Internal social sustainability disclosure quality	376	1020.806	556.1113	375	37.443	0.0000
GRI, G3 sustainability quality reporting principle	376	2808	1431.669			

Source: Authors' Computation (2022)

Table 6 presented one-sample t-test results indicating t-score of 37.443 at a significant level of 0.000. This implies that internal social information disclosure quality (IDQ) of LCN varies from sustainability information quality attributes identified in GRI, G3 reporting framework. Table 5 further demonstrated significant mean difference between social IDQ (mean score--1020.806) and GRI, G3 quality reporting principles (standard mean score--2808) from the mean value results. Based on one sample t-test result demonstrated in Table 6, the study concluded that significant different

exist between social information disclosure quality of LCN and GRI, G3 sustainability quality reporting framework.

Table 7: One Sample T-Test Results of External Environmental Information Disclosure Quality and GRI, G3 Quality Reporting Principles

Variable	Obs	Mean	SD	Degree of freedom	t-score	Sig
External environmental information disclosure quality	376	202.3457	224.6358	375	35.0634	0.0000
GRI, G3 sustainability quality reporting principle	376	1051.133	535.6321			

Source: Authors' Computation (2022)

One sample t-test result demonstrated in Table 7 indicated t-score of 35.0634 at a significant value of 0.0000. The t-test results also demonstrated mean value of 202.346 for external environmental IDQ of LCN and mean value of 1051.133 for GRI, G3 sustainability quality reporting standard. Based on the t-score, and the mean value exposited in Table 7, external environmental information disclosure quality of LCN differs from sustainability information quality attribute found in GRI, G3 sustainability quality standard. Therefore, we reject the null hypothesis which proposes that the different between environmental information disclosure quality of LCN and GRI, G3 information quality reporting principles is zero.

Table 8: One Sample T-Test Results of External Social Information Disclosure Quality and GRI, G3 Quality Reporting Principles

Variables	Obs	Mean	SD	Degree of freedom	t-score	Sig
External social information disclosure quality	376	656.1064	397.5479	375	21.8208	0.0000
GRI, G3 sustainability information quality reporting principles	376	936	477.2279			

Source: Authors' Computation (2022)

The summary results of one sample t-test exposited in Table 8 indicated t-score of 21.820 at 0.0000 level of significant. The result also showed mean value of 656.106 for external social information disclosure quality of LCN and mean value of 936 for GRI, G3 sustainability quality reporting standard. Relying on the one-sample t-test results comprising of t-score and mean value, external social information disclosure quality significantly varies from sustainability information quality attribute

found in GRI, G3 reporting quality. Therefore, null hypothesis is rejected and the study concluded that social and environmental information disclosure quality of LCN differ from information quality identified in GRI, G3 quality reporting principle.

Discussion

The study investigates social and environmental information disclosure quality of LCN and GRI, G3 information quality reporting attribute comprising of balance, reliability, relevance, comparability, sustainability context, clarity and timeliness.

With regard to principle of balance in SED LCN, findings revealed that studied companies are reluctant to disclose substantive information on carbon emission, waste water discharge, lost time accidents, fraud cases, minor occupational injuries among several others. Findings also uncovered that LCN paraded success news while challenges and problems linked with social issues and environmental damages are ignored. This implies that SED of LCN are biased, consequently may not be adequately useful to make informed business decision. The dominance of positive news, while negative news are ignored by LCN is an indication that SED of LCN is meant to signal only laudable sustainability achievement, thereby supporting signaling theory (Diouf & Boiral, 2017). Findings of this study corroborate study of Diouf and Boiral (2017), which uncovered that 70 percent of studied companies failed to report in the annual report social and environmental controversies confronted by them. Contrarily, findings mark a significant difference from the work of Michelon, *et al*., (2015).

Comparability principle is another SED attribute examined in SED of LCN. Comparability enables comparison of company's sustainability performance over time and between companies in the same sector. Finding revealed that SED of listed companies are self-selected, vague, and modified according to the need of the companies. Annual report examined revealed that different methods are employed to classify cost, input and procedure used in sustainability process thereby hindering comparability. SED of LCN are dominantly produced in narrative and non-monetary format. Material matter, marketing issues, issues of effluence and waste faced by studied companies varies and different measurement units are employed to address this issue. This creates a disparity in

the report, which hinder reasonable comparability of SED in the annual report. Findings of this study come to confirmed the results obtained in the study of Ane, (2012) which revealed that sustainability disclosure of companies in China lack attributes that can ensure comparability. Finding of this study is in contrast with the study of Krivacic, (2017) which revealed that SED of companies in Croatia possess attributes that ensure adequate comparability among peer in the same sector.

Furthermore, information relevance of SED was investigated and findings revealed that companies engaged stakeholders in open dialogue and constructive relationship with communities, customers, employees and other stakeholders. Finding also revealed that companies regularly run annual business forum and stakeholders' forum that enable stakeholders to discuss performance and community issues. However, characteristic of SED in the annual report indicated that discretion of what to disclose is not adequately guided by provision of GRI, G3 quality reporting guideline because disclosure were defined and designed according to the need of the companies. Kamala (2016) argued that SED reported in this manner are irrelevant as they will not address the concern of stakeholders. Finding of this study is consistent with study of Abishek, (2019) and Asaolu, *et al*., (2012). However, the results mark a significant different from the work of Leitoniene and Sapkauskeiene, (2015) which found a high level of relevant in the SED of companies in Lithuaman.

Reliability of the SED of LCN was investigated and findings revealed that sustainability disclosure of LCN usually contained forward statement prepared by top management to give SED the needed credibility. Also, greater number of LCN received certificate of excellence such as ISO 14001, ISO31000 OHSAS, 18001 to indicate excellent performance in specified area of sustainability. However, SED of LCN are not supported by third party verification of external assurance, thereby denoting that SED of LCN are not reliable. Habek and Wolmark (2015) suggested that lack of third party verification in a report rendered the report unreliable. Finding is consistent with the study of Beretta and Bozzollan, (2008) but contrast study of Krivacic, (2017).

Sustainability is understandable when SED is user friendly and can be easily assessed (GRI, G3 2006). Findings of this study revealed that LCN embraced online disclosure of SED thereby provide

convenience for users and make disclosure user friendly. However, SED of LCN are dominantly reported in narrative form against quantitative form recognized by GRI, G3 (2006) for understandability purpose. Moreover, findings revealed that SED is diluted within irrelevant pieces of several pages of information leading to poor accessibility and understandability. Findings follow study of Persic and Lahorka (2018), however, result of the study contrast findings of Badia, Bracci and Tallaki, (2020).

Timeliness is a fundamental information quality attribute a decision useful SED must possess. Annual report of LCN examined indicated that SED is timely and frequently released along with financial statement at a fixed interval that follows a regular circle. LCN examined demonstrated rapid uptake of the internet as a medium of reporting sustainability information. However, due to time, skill and complexity, involved in producing social and environmental information (SEI) a number of studied companies engaged in restatement of sustainability data from the previous period. Consequently, stakeholders are denied access to up-to-date information required for business decision making. However, limited number of studied companies standardized their online reporting practices as only few use Extensible business reporting language (XBRL). Findings of this study confirm results obtained in the study of Diouf and Boiral, (2017). However, this result is inconsistent with finding of Krivacic, (2017).

Sustainability context required SED of companies to have characteristics recognized with sector, local regional and global investment that will facilitate reasonable business. SED of LCN examined are reported in a manner that region or global investment of industry player may not be satisfied.

V. CONCLUSION AND RECOMMENDATIONS

This study concluded that social and environmental information disclosure quality of LCN varies from information attribute identified in GRI, G3 sustainability quality reporting standard. The reason for the variation might be linked to the voluntary and self-developed character of SED in Nigeria. This study therefore recommends that regulatory bodies should partner with academics and professional bodies in Nigeria to develop an acceptable SED quality reporting guidelines similar to GRI, G3 quality reporting standard for

adoption by listed companies in order to enhanced SED quality of LCN. The study is limited by number of sustainability items covered due to data constraints. However, this do not affect findings of the study as outcome of the study is sufficient to arrive at conclusion for generalization.

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