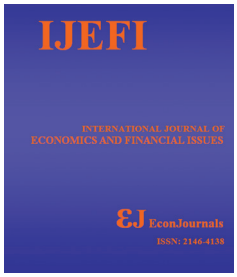

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Sustainability Accounting Practices and Reporting Differences among Key Sub-industrial Players in the Environmentally Sensitive Industry in Sub-Sahara Africa

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ABSTRACT

In response to claims that environmentally sensitive industries (ESI) fail in sustainable development but rather damage the economy, environment and societal well-being, this paper demonstrates how, in Sub-Saharan Africa, ESI subsectors differ in sustainability practises and decompose the differences in the lenses of Institutional isomorphism theory. Using non-parametric techniques and sampling from Sub-Saharan African stock markets, the study detects a significant difference. The empirical results showed that mining firms show relatively exceptional sustainability reporting performance and suggest institutional issues should be considered when analysing subsectors. The significant disparities between the mining subsector and the other two subsectors are due to environmental sensitivity, sectorial institutional independence, and social actor impact. The findings support the necessity to exercise care when cautioning sustainable development behaviours of distinct groups in the ESI.

Keywords: Subsectors, Environmentally Sensitive Industry, Sustainability, Corporate Social Responsibility, Initiatives
JEL Classifications: M410, Q5

1. INTRODUCTION

The ESI is a multifaceted industry. The key ESI players include the mining, energy, and manufacturing sectors (Cho and Patten, 2007). Firms in environmentally sensitive industry practice and report the most on sustainability initiatives (Aggarwal and Singh, 2018; Cho et al., 2015; Villiers and Marques, 2016) yet in environmental development, the ESI is often accused of damaging the economy, environment and societal well-being (Boiral and Henri, 2017; Dong et al. 2018; Hussainey et al., 2011; Idemudia et al. 2020; Orazalin and Mahmood, 2018; Slack, 2012). The critics are more focused on the mining sector. According to Dong et al. (2018) and Warhurst (2001), the primary environmental disasters and human rights crises that have raised public awareness of corporate social responsibility (CSR) in the past four decades have predominantly occurred in the mining and energy/petroleum sectors (Vintro et al., 2012). According to Idemudia et al. (2020), the mining sector has had a substantial adverse ecological impact and is perceived as lacking in terms of CSR (Concepción et al., 2023), more so in the developing world (Bebbington, 2012; Bury, 2013; Hilson, 2012; Himley, 2014) as mining CSR has made limited headway towards inclusive development for nearby residents (Frederiksen, 2018). The mining sector's CSR is perceived as a mere publicity ploy that lacks substance and meaningful impact (Kuyek, 2006; Slack, 2012). The situation has gradually raised people's consciousness about the critical need for ecological and sustainable development in mining (Dong et al., 2019). In that vein, despite some sectors in the ESI industry dedicating resources to conveying their environmental commitment, market actors do not financially reward such efforts (Aerts et al., 2008; Cormier and Magnan, 2015). Indeed, stakeholders perceive environmental and ecological information supplied by separate sectors in ESI with distrust (Cho

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and Patten, 2007). Consequentially, when a sector within the ESI fails to meet socio-environmental expectations, all businesses' survival in the ESI is severely threatened (Comyns and Figge, 2015). However, it is essential to revise this perspective as mining businesses are leading the way in implementing commendable CSR policies (Selmier, 2017). For instance, the worldwide mining industry leads CSR actions to mitigate stakeholder impacts (Ackers and Grobbelaar, 2022) to offset the damaging effect.

While there have been studies conducted on the mining industry in developing countries (Frederiksen, 2019; Hadj, 2020; Moomen and Dewan, 2017; Shapiro et al., 2018), these studies are limited in number (Concepción et al., 2023) and recent studies (e.g. Famiyeh et al., 2021) focused on Sub-Saharan Africa, yet, there is absence of CSR cross-sector studies (Bually et al., 2020) that examine the CSR performances of the three critical independent sectors mining, energy and manufacturing within the ESI, despite the significant impact of the ESI on the economy of Sub-Saharan Africa. In that regard, ESI has been praised (Aggarwal and Singh, 2018; Cho et al., 2015; Villiers and Marques, 2016) and at the same time criticised (Boiral and Henri, 2017; Dong et al., 2018; Idemudia et al. 2020; Orazalin and Mahmood, 2018) indicating an unknown CSR behaviour among ESI sectors that must be empirically established. This study advances the Institutional Theory to hypothesise and discuss the exceptional CSR practices and reporting by mining as against the energy and manufacturing groups that constitute the three critical players in the ESI.

The findings of this research contribute knowledge to the extant literature on sustainability strategies. First, how critical sub-sectors in the ESI embrace institutional pressures to shape their respective sustainability initiatives could assist in identifying areas where a collaborative change is needed in sustainability practices, and creativity could be fortified. Second, it validates how the perceived demand for firms in the different ESI groups to be environmentally friendly is leveraged in varying degrees. By referencing the separate groups in the ESI in this study, the findings will contribute to understanding the varying degrees to which these groups respond to the need to be environmentally and socially responsible in offsetting negative externalities. The paper continues as follows: Section II discusses the existing literature to provide a detailed description of the institutional background and the social and physical environment relating to mining, energy and manufacturing subsectors' operations that lead to hypothesis development. Section III presents the research design and the econometric model deployed in the study. Section IV presents the outcome of the empirical analysis and discussions. Section V offers sensitivity analysis, and VI discusses the implications of the findings, the conclusions, limitations and direction for future research.

2. LITERATURE REVIEW

2.1. Empirical Literature

Sustainable development is the awareness that stakeholders deserve the assurance that in meeting the needs of current society, future generations' resources are not compromised (Gorman and Dzombak, 2018). For this reason, some sectors' business models are linked with the premises of sustainability (Sehnem et al., 2019) and now operate as resource circularity determinants. As a result, their organisational structures necessitate a workforce concerned with sustainability issues (Singh, 2018) and a "green culture" mindset (Masri and Jaaron, 2017). Such CSR-centred sectors make higher tax payments as CSR practices (Apostol, 2016) and provide products and services that emphasise the planet's long-term viability.

Various forces influence the three sectors' adoption of CSR practices and reporting (Fernando and Lawrence, 2014) emanating from structural differences (Kuhn et al., 2018; Fairfield et al., 2009), environmental sensitivity (Maroun, 2017; Yu et al., 2017) the extent of extraction of non-renewable resources and associated employee pressure (Rudynato and Siregar, 2018) propagated by subsector regulation as an underlying institutional factor (Tilt et al., 2021) and differences in proactivity (González-Ramos et al., 2018). Sectors with solid independent institutions are more able to practice CSR initiatives in response to consumer demand (Castka and Balzarova, 2008). Legal sources, government authorities, powerful corporations, social actors and influential stakeholders coerce sectors to be socially and environmentally mindful (Hasan and Taha Islam, 2023; Rao and Sivakumar, 1999). For instance, in the United Kingdom, energy companies responded to relevant worldwide ecological control conventions by implementing EMS (Strachan et al., 2003). Mining, energy and manufacturing are three distinct sectors of varying institutional backgrounds; regulatory agencies, social actors, and physical environmental operations engage in dissimilar activities with diverse risk exposures; hence, their isomorphism characters should differ from sector to sector.

2.2. Institutional Isomorphism Theory and Hypothesis

The Institutional Theory provides a logical method and a prised framework for improving our understanding of and offering insight into how business practices such as CSR reporting are implemented in specific institutional contexts (Tran et al., 2021). Yet the application of Institutional Theory in CSR studies is now developing (Caldera et al., 2019), especially its use in ESI, particularly in emerging economies, such as Africa, where sustainability studies are embryonic (Adib et al., 2019).

Dillard et al. (2004) propose that isomorphism pertains to the process through which an organisation adopts and incorporates an institutional practice. The extent of sectoral pressure conformity determines an organisation's success and survival (DiMaggio and Powel, 1983). Despite the absence of legitimacy pressure, sectoral tendencies encourage sustainability disclosures within a sector (Kuhn et al., 2018). Neo-institutional Theorists posit that institutional conduct and behaviours in a set-up are primarily homogeneous with the characters of members (Meyer and Rowan, 1977). Such formation of the same characters among members of the same institution is an isomorphism behaviour. This isomorphism in institutions includes mimetic, coercive and normative forces (DiMaggio and Powel, 1991).

The mimetic orientation refers to uncertain corporations' tendency to imitate the successful actions of prominent representatives (Bensal, 2005). The concept of coercive stress is present when

an organisation's achievement is contingent upon obtaining the endorsement of an authorised agency and or organisations modifying their institutional practices in response to institutional pressures arising from influential stakeholders, such as regulatory bodies and investor groups. (DiMaggio and Powell, 1983). Governments worldwide employ coercive measures to ensure compliance with international quality standards and environmental regulations by institutions that rely on resources for their sustenance (Perez-Aleman, 2011). According to Heugens and Lander (2009), organisations often follow the lead of enterprises possessing critical resources and government entities wielding legal power. Sectors adopt green supply chain practices, encompassing environmentally conscious purchasing and internal environmental control systems, to mitigate penalties and comply with external regulations (Bansal and Roth, 2000). It is also essential to indicate that coercive or regulative pressures are applied not only by legal sources, government authorities, or highly effective companies but also by social actors (Rao and Sivakumar, 1999). For example, several companies are adopting CSR policies in response to the influence exerted by various stakeholders, including non-governmental organisations (NGOs) and consumers (Castka and Balzarova, 2008).

Heugens and Lander (2009) argue that normative pressures pertain to establishing mutual control by corporate sectors over field and professional operations. In the normative settings, Grewal and Dharwadkar (2002) and DiMaggio and Powell (1983) demonstrated that trade and professional associations and other recognised stakeholders are primarily responsible for establishing rules of conduct deemed appropriate by their members to enhance the sector to adopt greater environmental accountability (Berrone et al., 2010; Castka and Balzarova, 2008). Clair and Ehrman (1995) posit that each stakeholder can mobilise public backing or opposition towards an organisation, contingent upon its environmental effectiveness.

The mining sector has been subject to pressure from many groups, both domestically and internationally, specifically focusing on businesses operating in Africa (Famiyeh et al., 2021). International entities such as War on Want, a United Kingdom-based pressure group, advocate for the British government to compel African mining firms to uphold their social obligations. In SSA, NGOs such as the Wassa Association of Communities Affected by Mining (WACAM) took robust advocacy efforts, drawing attention to human rights infringements and environmental inequities. WACAM proposed tangible recommendations for revising the existing national mining legislation that aims at quality sustainable practices, among other issues. Hence, one could posit that these endeavours discussed earlier and granted sector membership impact CSR commitments (Fifka et al., 2018; Gul et al., 2020) might have a distinguishing impact on mining corporations' activities in SSA. Therefore, the study hypothesised as follows:

H_1: The mining subsector should be doing higher levels of total sustainability disclosures than the energy subsectors

H_2: The mining subsector should be doing higher levels of total sustainability disclosures than the manufacturing sectors.

However, there is insufficient focus on the energy and manufacturing sectors to be highly environmentally and socially responsible, yet the mining, energy, and manufacturing subsectors of the ESI practise and report the most excellent CSR activity (Aggarwal and Singh, 2018; Cho et al., 2015; Villiers and Marques, 2016). On that note, this paper makes two proposals that:

H_3: There are no significant sustainability reporting differences between the energy and the manufacturing sectors

H_4: The incomparable sustainability performance of the mining sector accounts for the exceptional CSR practices and reporting of the entire ESI.

3. METHODOLOGY

3.1. Research Context

This study gives credence to structural issues (Kuhn et al., 2018), environmental sensitivity (Rudynato and Siregar, 2018), social-cum-cosumer pressure (Castka and Balzarova, 2008) and employees of players in the ESI. The study addresses the CSR reporting gap by applying the Global Reporting Initiative (GRI) four (4) fundamental sustainability performance issues: (1) management structure, governance systems and credibility associated with sustainability reports and programs; (2) supportable performance indicators, spending cum savings on community sustainability. (3) vision claim and strategy adoption on sustainability cial actors' concerns; (4) disclosures on internal initiatives and management approach towards sustainable development. The four selected sustainability practices aim to integrate structural, environmental sensitivity, social actors initiatives and employee CSR disclosures, respectively, into the analysis (Table 1).

The adopted GRI framework is the most extensively used sustainability reporting framework (Karagiannis et al., 2019; Mancini and Sala, 2018). In sub-Saharan Africa, due to ineffective institutions and a poor regulatory environment (Famiyeh et al., 2021), only a handful of companies have comprehensive sustainability progress reports, hence, insufficient sustainability reporting data (Tilt et al., 2021) to justify a panel approach. The analysis was limited to a single year (2019) of data, as is common in modern sustainability research (see, for example, Beck et al., 2018; Tilt et al., 2021). There is convergence in reporting across countries due to the application of global sustainability disclosure standards (Kuhn et al., 2018). In that vein, the study sampled across the entire SSA, recognising regional balance.

3.2. Sampling

This study sampled ten stock markets (Ghana, Nigeria, Ivory Coast, South Africa, Kenya, Mauritius, Tanzania, Zambia,

Table 1: Sustainability disclosure variables of interest and what they stand for

(1) Str_Credence: This assesses the impact of structural systems on sustainability practices and reporting
(2) Sup_ind measures subsectors' environmental sensitivity to community development.
(3) Vis.stra_Init: The vision and strategy to encourage employees' sustainable practices and career development
(4) DMA: this evaluates the management approach to deal with pressure group and social actors' concerns
(5) Aggre_dis: This is the total disclosures of each subsector given by summing (1), (2), (3) and (4)

Botswana, and Swaziland). Selected stock markets pride in ESI firms. ESI are (1) the Manufacturing sector, which has two major divisions: those that generate natural products and those that process them; (2) Mining is a single centralised industry with few other enterprises engaged in exploration; (3) Energy sector, one important group (oil and gas companies). In this regard, the examined enterprises included 65 manufacturing firms, 40 mining firms, and 30 energy firms to form 135 firms. While the planned sample size was 146, eleven businesses were excluded due to a lack of 2019 annual reports or inaccurate information in their CSR-related material. As a result, the total sample size was 135 companies. Using a GRI-derived checklist and a composite scoring index, data were drawn from website publications, standalone CSR reports, and relevant annual reports (Clarkson et al., 2008; Ong et al., 2016).

3.3. Sustainability Data Collection

This study adopts the equal-weighted scoring index that hinges on Clarkson et al. (2008) and the unequal index enhanced by Ong et al. (2016) with slight modifications to collect and award marks to numeric data on Sustainability. Based on a list of ninety-nine disclosure items grouped into four primary sub-categories (Table 2), the marks awarded range between zero and four marks.

Thus, if data is disclosed, a mark is awarded; otherwise, it is zero. For data on supportable indicators, spending and savings on sustainable development, depending on the level of exposure, each item receives a score ranging from 0 to 4. The mark is 0 if the data is missing, 1 if the data is disclosed, 2 if previous year data is also disclosed, increase to 3 if industry data on the topic is revealed, and enhanced to 4 if the data is expressed in normalised form. We calculate a firm's aggregate disclosure for each class of sustainability sub-category as a percentage of the predicted total marks for that class of sustainability sub-category. The three subsectors are independent. There were three main tests. First, the study tests for the normality of the distribution of sustainability data collected for each of the four lenses of sustainability practices. Second, the sustainability disclosure performances of the three subsectors were compared using the Fligner-Killen test of homogeneity of variance around the mean disclosures for each class of sustainability disclosures. The Fligner-Killen test is appropriate when comparing autonomous groups on CSR disclosure if the normality assumption is violated (see, e.g. Ding et al., 2013). The study estimates the Fligner-Killen statistic using the model:

$$FK = \frac{\sum_{j=1}^{k} nj\left(\overline{a}_{j\_} - \overline{a}\right)^2}{s^2}$$

Where k is the number of independent groups, nj is the magnitude of the jth group, aj_ bar is the mean of the normalisation values for the jth group, a_ bar is the mean of all the normalisation values, and s^2 is the variance of all the normalisation values.

In the final test, for specific sustainability issues where the variance around the mean was significantly different, the Games Howell test was carried out to compare the means of each pair of groups to ascertain the causes of mean differences (see, e.g. Moskola et al., 2021). Games Howell *post hoc* test is based on Welch's degrees of freedom correction and uses Tukey's studentised range distribution for computing the P-values. Tukey's Studentized Range formula is used in statistics to compare the means of multiple groups: The formula is q = (Y.A.−Y.B.)/S, Where Y.A. is the larger of the two means being compared, Y.B. is the smaller of the two means being compared, and S is the standard error of the data. The q value can then be compared to a q value from the studentised range distribution.

Table 2: Sustainability scoring index

Sustainability category	Items	Maximum score
1. Gov.mgt_Credence	14	14
2. Supportable.spending.saving_ind	38	152
3. Vis.stra_int.Initiatives	10	10
4. DMA	37	37
	99	213

4. RESULTS

Table 3 shows the results of the normality test. The normality test results on the dependent variables show that all the comparison variables are not normally distributed. Non-parametric methods are excellent and beneficial for situations in which the data do not meet the severe assumptions of parametric methods (Pallant, 2013).

4.1. Sustainability Reporting Differences among the Subsectors

The study deployed the Fligner-Killen model to test the homogeneity of variance around the average disclosure of the three independent groups (subsectors). Table 4 is the Fligner-Killen assessment results of the subsectors' comparative performance of sustainability disclosure and the P-values for each category of sustainability exposé.

The default null hypothesis is that there are no differences in total disclosures (Aggre_dis) variance across groups. The P-value (P = 0.00266) is very small at the aggregate disclosure level. The study rejects the null hypothesis that the three subsectors' total disclosures are identical. Impliedly, at least one group performs differently from the other two subsectors in the environmentally sensitive industry.

Further, the study compared the three groups' disclosure performance at the sub-divisions of sustainability practices. The P-values in each sustainability disclosure results of the Flinger-Killen test for Vis_stra and DMA are very high. In that case, there is no significant difference in performance among the three subsectors. However, for the real and verifiable sustainability performance indicators (Sup_ind) that differentiate proper practitioners of sustainability from others, the p-value from the Flinger-Killen test (P = 8.778e-08) is small. Thus, for Sup_ind disclosure, the study rejects the null hypothesis that variances are

Table 3: Normality test for dependent variables of comparison

Sustainability category	Str_cred	Sup_ind	Vis_stra	DMA
Statistic(w)	0.92	0.76	0.92	0.93
P-value	1.087e-06	1.539e-13	2.326e-06	1.442e-05

homogeneous. Impliedly, mining firms differ from manufacturing, energy, or both in their reportage of sustainability performance indicators that can be subjected to physical inspection. Similarly, Str_credence disclosure, with a P = 0.01662, is significant at 5%. This value indicates that the three subsectors do not display similar patterns in sustainable development.

As these three subsectors do not exhibit the same level of reporting in Aggre_dis, Stru_credence and Supp_ind, this study further investigates the difference in disclosures of any two independent sectors. The study deploys the Games Howell *post hoc* test. The main difference is reported in the next paragraph.

4.1.1. Total sustainability disclosures (Aggr_dis)

Table 5 shows the outcome of the Games Howell *post hoc* test for total disclosure for all four areas of sustainability reporting for the three sectors that comprise the resource industry. In Table 5, the mining group significantly distinguishes itself from the manufacturing and energy groups. The mean total disclosure (Aggre_dis) of mining firms is superior to energy firms by 17.4 (P = 0.001) to support H1 and that of manufacturing firms by 12.4 (P = 0.013) in support of H_2. There is no significant difference between manufacturing and energy firms in total or collective disclosures (H_3).

4.1.2. Structural credence (Str_credence) of sustainability initiatives and reporting

Table 6 compares how mining, energy and manufacturing sectors vary in the credibility of sustainability practices and reporting. Similarly, mining significantly differs from both the energy and manufacturing sectors. Mining firms exhibit a better tendency of 28.8 (P = 0.001) than the energy group and 20.1 (P = 0.02) than the manufacturing group to affirm H_1 and H_2 further. Nevertheless, no significant disclosure differences exist between the energy and manufacturing sectors H_3.

4.1.3. Supportable indicators (sup_ind)

In Table 7, judging reporting performance from the perspective of supportable indicators (Sup_ind), the mining subsector again exceeds both energy and manufacturing groups by 10.7 (P = 0.005) and 8.66 (P = 0.015), respectively. However, energy and manufacturing groups exhibit no significant differences in reporting.

Based on the Games Howell test results from Aggre_dis, Sus_ind and Credibility reporting, the difference in variance distribution among subsectors obtained in the Fligner-Killen test was caused by the mining subsector only since the manufacturing and the energy showed no significant difference in any of these wings of sustainable development and reporting.

5. DISCUSSION

By these empirical data, the mining subsector has differentiated itself from other subsectors in the ESI by associating most with sustainable practices and reporting at the aggregate and tangible reporting levels. The mining industry comprises companies that own vital resources, and their operations are significantly influenced by government authorities characterised by strong institutional factors (e.g. law enforcement) who hold legal control, often dictating the trajectory of many enterprises (Heugens and Lander, 2009). In that regard, on a global scale, the mining sector accepts governments to exert coercive influence to enforce international quality standards and environmental regulations that count on natural resources for their operations (Perez-Aleman, 2011). More importantly, social actors' coercive or regulatory pressures (Rao and Sivakumar, 1999) are dominant and lead to more intensive CSR practices (Park et al., 2014) in the mineral and metal sector, leading to mining businesses developing CSR practices in response to consumer and activist demand (Castka and Balzarova, 2008).

Mining companies are relatively susceptible companies. They extract finite and non-renewable resources (Cowell et al., 1999) to deprive future generations of their needs (Gorman and Dzombak, 2018). In return, the mining group drives environmental performance (Cormier and Magnan, 2015) to demonstrate that adopting environmental management systems (EMS) is not optional. Similarly, mines have responded to Azzone et al. (1997)

Table 4: Fligner-Killen test results of homogeneity in variance results

Sustainability disclosure type	Aggre_dis	Str_cred	Sup_ind	Vis_stra	DMA
Flinger-Killen test P-values	0.0026***	0.016**	8.778e-08***	0.5958	0.516

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1'' 1

Table 5: Games Howell *post hoc* test for total disclosures (Aggre_dis)

Group 1	Group 2	Mean difference	P-value	Significance level
Mining	Energy	17.4	0.001	0.1% (***)
Mining	Manufacturing	12.4	0.013	5% (*)
Manufacturing	Energy	4.93	0.393	No significance

Table 6: Games Howell *post hoc* test results for credibility of disclosures(str_credence)

Group 1	Group 2	Mean difference	P-value	Significance level
Mining	Energy	28.8	0.001	0.1% (***)
Mining	Manufacturing	20.1	0.02	5% (*)
Manufacturing	Energy	8.72	0.393	No significance

Table 7: Games Howell *post hoc* test results for supportable indicators(Sup_Ind)

Group 1	Group 2	Difference in mean	P-value	Significance level
Mining	Energy	10.7	0.005	1% (**)
Mining	Manufacturing	8.66	0.015	5% (*)
Manufacturing	Energy	4.93	0.577	No significance

Table 8: Levene test results of the CSR disclosures among the three subsectors

Sustainability disclosure type	Aggre_dis	Str_cred	Sup_ind	Vis_stra	DMA
Levene test P-values	0.001227**	0.01561*	1.186e-05***	0.3269	0.5289

discovery that enterprises' primary driving force for implementing EMS projects is strengthening ties with external social groups like the general public, investors, governments, and other community organisations. In that regard, mining firms engage with institutional dynamics in manners that align with the expectations of diverse stakeholders (Meyer and Rowan, 1977). The mining industry has properly integrated institutional practice inside organisations to acquire institutional legitimacy and enhance survival prospects (Meyer and Rowan, 1977). Thus, due to uncertainties in the SSA environment, the mineral and metal sector members have isomorphism mimicking prosperous and authorised social players such as their respective parent and leading companies (Judge et al., 2010). Mining operations exhibit normative isomorphism due to sector participants' awareness of CSR benefits. CSR initiatives are treated as a corporate strategy in the mining industry (Mullerat, 2013).

However, CSR is typically overlooked by stakeholders in the energy and manufacturing sectors (Mellahi and Wood, 2003), leading to a weak correlation between CSR and the energy manufacturing industry in emerging nations. Energy-manufacturing firms in emerging countries do not consider social, environmental, and labour issues as part of the company's obligations (Krukowska, 2014). In this regard, mining firms could be excluded from all ESI firms' risk of extinction if social expectations are unmet (Comyns and Figge, 2015). Likewise, all groups of firms in the ESI often criticised for harming the environment and society (Hussainey et al., 2011; Orazalin and Mahmood, 2018) must be taken a second look. The mining sector exhibits commendable sustainable development practices. Mining group unique reporting practices may account for why literature calls ESI the most reported sustainability initiative (Aggarwal and Singh, 2018; Cho et al., 2015; Villiers and Marques, 2016); hence, care must be taken in interpreting prior findings. Being a multifaceted industry, there are significant differences in sustainability reporting patterns; otherwise, there is CSR disclosure deception (Ginder et al., 2021).

Consequently, the study adds to the increased observed signal in the extant literature on how subsector groups, through their varying institutional gravities and structural distinctions in the industry sectors (Kuhn et al., 2018), stimulate firms' actions, particularly in their sustainable development choices earlier established empirically by Fairfield et al. (2009).

Until such time, the manufacturing and energy groups associate strongly with the mining group as a unified body to become isomorphic (Edwards et al., 2009) to pattern their leader, the mining group; otherwise, the CSR conduct and behaviours in the ESI will never be primarily homogeneous with the characters of members (Meyer and Rowan, 1977).

6. SENSITIVITY ANALYSIS

In Table 8, the study deployed Levene's model to test the pattern of CSR disclosure deviations from the mean CSR disclosure at the aggregate and the sub-dimension levels. Although a parametric test, Levene's test is not sensitive to normality deviation.

Impliedly, the three independent groups do not do the same reporting levels in these disclosures. These test results are similar to the outcomes obtained using the Fligner-Killen approach.

7. CONCLUSION

This study examines the ESI subsectors' CSR reporting to account for different scopes within the industry through the lenses of Institutional Isomorphism Theory. Generally, there is significant heterogeneity in structural systems on sustainability practices and reporting vis-à-vis the integrity of reports generated, supportable performance indicators on environmental sensitivity to community development, and the total disclosures by the three subsectors. Thus, mining firms differ from manufacturing and energy in their reportage of sustainability performance. The findings in this research contribute to the extant literature. First, it inputs the literature on how the mining subsector embraces institutional pressures to shape its sustainability initiatives differently from other vital subsectors. The results assist in identifying structural credence and tangible, sustainable achievements as areas where a collaborative change is needed in responding to isomorphic pressure to impact sustainability practices positively. Second, by presenting comparative empirical data of the three critical sectors, the study demonstrates how different sectors embrace environmental sensitivity, sectorial institutional independence, and social actors' demands to shape their respective sustainable development practices. Further, researchers and stakeholders can better understand that if ESI is the most practising and reporting, it is the mining subsector that stands in for the rest of the industry and not all the groups in the ESI that practice and report the most. It is, therefore, essential to interpret the exceptional performance of the ESI with care.

The study has been limited mainly by using data from a single-year period. Consequently, these results should be interpreted within this limit. Future studies could evaluate these variations in the subsector

groups over several years when varying year-specific unique data becomes available, especially as sustainability reporting becomes compulsory. Second, the method used in collecting sustainability data was purely content analysis. It is recommended that informal interactions and interviews be considered in soliciting unobserved but relevant facts in sustainable development-related research in the future.

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