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Research Article

Stakeholder Engagement and the Quality of Sustainability Reporting: Evidence from Energy and Basic Materials Firms in Emerging Markets

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***Abstract** - This study investigates the influence of stakeholder engagement on the quality of sustainability reporting within the energy and basic materials sectors in an emerging market context. Grounded in stakeholder and legitimacy theories, the research examines how different engagement dimensions customers, media, shareholders, and competitors shape the depth and transparency of corporate sustainability reports. Using a quantitative approach, the study employs content analysis to assess the sustainability reports of 30 firms listed on the Indonesia Stock Exchange between 2021 and 2023. Multiple logistic regression is used to test the hypothesized relationships between stakeholder engagement variables and report quality. The results reveal that customers' and shareholders' engagement significantly enhance the quality of sustainability disclosures, whereas media and competitors' engagement show weaker effects. These findings extend existing sustainability reporting literature by integrating multiple stakeholder dimensions into a single analytical framework and providing empirical evidence from emerging markets. Practically, the study highlights the importance of proactive stakeholder interaction in fostering transparency and accountability in corporate sustainability practices.*

***Keywords** - Sustainability Reports Quality, Stakeholders' Engagement.*

I. INTRODUCTION

Corporate sustainability reporting (CSR) has become a central mechanism for communicating an organization's commitment to environmental and social accountability. By disclosing nonfinancial information, firms demonstrate how their strategies and operations contribute to sustainable development and stakeholder value creation (Hahn et al., 2018; Michelon & Rodrigue, 2020; Kuo & Chen, 2023). Sustainability reporting not only enhances transparency but also reinforces corporate legitimacy by signalling conformity with societal norms and expectations (Cho et al., 2015; De Villiers & Dimes, 2021). In this context, ensuring that all stakeholder groups are informed about a company's environmental and social responsibilities becomes a key driver of organizational legitimacy and long-term resilience (Ioannou & Serafeim, 2017; Haji & Anifowose, 2016).

Globally, the adoption of sustainability reporting frameworks has been largely influenced by the Global Reporting Initiative (GRI), which has provided standardized disclosure guidelines since 1997. The updated variant of the GRI Standards took place in 2021 provides an extended range of such indicators to measure the effects of corporations on economic, environmental, and social levels (Global Reporting Initiative, 2021). They allow comparability and accountability of sustainability reporting, allowing stakeholders to have confidence in the company and improving corporate reputation (Boiral, Heras-Saizarbitoria & Brotherton, 2019; Liesen et al., 2017; Lock and Seele, 2021). Nevertheless, despite the existence of global standards, the quality, completeness, and reliability of the revealed information are problematic (Diouf & Boiral, 2017; Haji, Coram & Troshani, 2022). Companies often create symbolic and not substantive forms of reporting, and thus their reports focus on creating an image and not the transparency of actual performance (Boiral, 2013; Cho et al., 2015; Liesen et al., 2017). The situation with sustainability reporting in emerging markets, such as in Indonesia, is one in which the practice is transferred to a more regulated framework, as opposed to voluntary disclosure. The Regulation No. 51/POJK.03/2017 by Financial Services Authority requires any financial institution and listed company to adopt the principles of sustainable finance in the conduct of business. However, even with these regulatory demands, it remains true that not all Indonesian companies are aware and knowledgeable about the sustainability reporting requirements (Tjahjadi, Soewarno & Mustikaningrum, 2021; Sutopo, Wulandari and Rahmawati, 2023). The presence of the standards, including the GRI and country guidelines, has not ensured the quality or consistency of the reports completely, and it suggests that there is still a disparity between compliance and substantive reporting (Haji et al., 2022; Michelon and Rodrigue, 2020). It is also critical to make policy-level sustainability initiatives translate into quantifiable and practical corporate behaviors that are in line with international standards (Ioannou and Serafeim, 2017; Kuo and Chen, 2023).

The quality of sustainability reports has been a major concern in both academic and professional discussions. Diouf and Boiral (2017) and Haji et al. (2022) as well as other scholars note that sustainability disclosures are characterized by persistent inconsistencies and unavailable information which requires more credibility. Notwithstanding the practice of standardization, there is substantial disclosure depth and quality differences between firms and industries (Boiral et al., 2019; Hahn et al., 2018; Lock and Seele, 2021). Such differences are usually based on the differences in pressures of stakeholders, governance mechanisms, and organizational motives (Michelon and Rodrigue, 2020; De Villiers and Dimes, 2021; Hahn et al., 2018). This has meant that when it comes to the sustainability reporting quality, it is necessary to not only evaluate the contents but also the stakeholder dynamics that underlie the disclosure behaviour.

Stakeholder engagement plays a pivotal role in shaping sustainability reporting quality (Freeman, Harrison & Zyglidopoulos, 2018; Maniora, 2018; Haque & Jones, 2020). The readiness of firms to release noble sustainability information is influenced by external pressures of customers, investors, media, and competitors (Ioannou and Serafeim, 2017; Haque and Jones, 2020; Maniora, 2018). As an example, the engagement of customers can lead companies to enhance the relevance of reported information to the expectations of the markets (Cortado and Chalmeta, 2016; Boiral et al., 2019). On the same note, shareholders require increased accountability, in which sustainability reporting is associated with corporate governance and share valuation (Dhaliwal et al., 2011; Clarkson et al., 2020). On the other side, media exposure is a reputational mechanism that forces companies to legitimize their sustainability performance (Michelon and Rodrigue, 2020; Cho et al., 2015). At the same time, competition processes also affect disclosure policies; companies tend to follow or react to the activities of their rivals regarding sustainability in order to be legitimate and on an equal footing (Berthelot, Coulmont & Serret, 2012; Cormier, Ledoux and Magnan, 2017). Despite the growing interest, empirical findings remain inconclusive regarding which stakeholder groups most strongly affect the quality of sustainability reporting. Although other studies have detected strong contributions due to the presence of customer and investor engagement (Dhaliwal et al., 2011; Clarkson et al., 2020; Boiral et al., 2019), others have found weak or no association (Michelon and Rodrigue, 2020; Haque and Jones, 2020). Equally, the role of media and competitors has been questioned, and there has been an indication that its impact is both negative and neutral depending on the institutional setting (Berthelot et al., 2012; Cormier et al., 2017). These discrepancies suggest that the research on the subject of stakeholder interactions within emerging markets can be furthered to shed more light on how the pressure of the various parties co-exist to shape the quality of sustainability reporting (Maniora, 2018; Haji et al., 2022).

II. THEORETICAL FRAMEWORK

A. Quality of Sustainability Reporting

Sustainability reporting represents a key instrument through which firms communicate their social, environmental, and economic impacts to stakeholders and demonstrate their contribution to sustainable development goals (Boiral, Heras-Saizarbitoria & Brotherton, 2019; Michelon & Rodrigue, 2020; Kuo & Chen, 2023). The quality of the given reporting indicates the level of full disclosure, trustworthiness, and compliance with the international reporting frameworks like the Global Reporting Initiative (GRI) (Global Reporting Initiative, 2021). Excellent sustainability reports lead to increased trust in stakeholders and pave the way to better decision making due to the growing popularity of nonfinancial performance measures among investors (Clarkson et al., 2020; Hahn et al., 2018). Nevertheless, there are still substantial differences between disclosure quality at companies and in the types of industries, which usually can be traced back to differences in governance, pressures by stakeholders, and strategic incentives (Diouf & Boiral, 2017; Lock and Seele, 2021; De Villiers and Dimes, 2021).

B. Stakeholder Theory and Legitimacy Theory

This study is grounded in Stakeholder Theory as the grand theory and Legitimacy Theory as the supporting framework. Stakeholder Theory (Freeman, 1984; Freeman, Harrison & Zyglidopoulos, 2018) posits that organizations must address the needs and expectations of various stakeholder groups including customers, media, shareholders, and competitors to sustain legitimacy and long-term success. Customers represent primary stakeholders whose satisfaction directly affects firm performance and survival (Islam et al., 2019; Kosiba et al., 2020). As secondary stakeholders, the media significantly influence the formation of the perception of the population and the legitimacy of the institution, increasing or questioning corporate sustainability activities (Lock and Seele, 2021; Hahn et al., 2018).

Shareholders exert economic influence through capital allocation and governance mechanisms, often demanding improved sustainability disclosures to mitigate risk and enhance firm value (Dhaliwal et al., 2011; Clarkson et al., 2020). Competitors, though traditionally excluded from stakeholder categories, act as strategic reference groups that shape firms' disclosure behaviour through mimetic pressures (Berthelot, Coulmont & Serret, 2012; Cormier, Ledoux & Magnan, 2017). Collectively, these stakeholders influence firms' sustainability communication practices. Legitimacy Theory complements this framework by explaining how firms disclose sustainability information to secure societal approval and maintain their "license to operate" (Cho et al., 2015; Vitolla, Raimo & Rubino, 2019). High-quality sustainability reports signal that firms' operations align with societal norms, helping to reinforce legitimacy among diverse stakeholder groups (Crossley, Elmagrhi & Ntim, 2021; De Villiers & Dimes, 2021).

C. Hypothesis Development

a. Customers Engagement and the Quality of Sustainability Reporting

Customer engagement involves cognitive, emotional, and behavioural aspects of customer interaction with a firm (Islam et al., 2019; Kosiba et al., 2020). The studies indicate that organizations that are more transparent and accountable in terms of sustainability reporting have better customer relations (Fernandez- Feijoo, Romero & Ruiz, 2014; Boiral et al., 2019; Maniora, 2018). With the growing number of environmentally conscious consumers using sustainability performance in their purchase decisions, the companies are increasingly pressured to responsibly report their social and environmental efforts (Wiederhold and Martinez, 2018; Agyei, Sun and Abrokwah, 2020). Such a dynamic promotes the release of detailed sustainability reports by firms as a trust-building and a competitive advantage mechanism (Kuo and Chen, 2023; Hahn et al., 2018).
H1: Customer engagement positively influences the quality of sustainability reporting.

b. Media's Engagement and the Quality of Sustainability Reporting

The media serve as powerful intermediaries in the diffusion of corporate sustainability information and the shaping of public discourse (Lock & Seele, 2021; Hahn et al., 2018). The media coverage is an informal source of accountability as it causes firms to provide correct and full information on sustainability, as it forces them to remain legitimate (Michelon et al., 2020; Cho et al., 2015). It has been found that more comprehensive and credible sustainability reports are published by companies that are more scrutinized by the media (Lodhia, Kaur & Stone, 2020; Nazari, Herremans and Warsame, 2015). The media involvement can thus be viewed as a reputational risk and an opportunity: whereas negative coverage would bring to the surface the greenwashing activities, active communication would build better trustworthiness with the stakeholders (De Villiers and Dimes, 2021; Lock and Seele, 2021).
H2: Media engagement positively influences the quality of sustainability reporting.

c. Shareholders' Engagement and the Quality of Sustainability Reporting

Shareholders play a decisive role in shaping corporate reporting practices through governance mechanisms and investment decisions (Dhaliwal et al., 2011; Clarkson et al., 2020). The more proactive shareholders a firm has, the higher the chances of using sustainability in its strategies and reporting frames (Global Reporting

Initiative, 2021: Kaur and Lodhia, 2018). According to previous studies, the existence of ownership dispersion and investor activism leads to the fact that firms become more respondent to issues of sustainability, which enhances the quality and accuracy of disclosures (Maniora, 2018; Vitolla et al., 2019). This is in line with the stakeholder theory that maintains that the expectations of shareholders place economic and reputational pressure on companies to improve the quality of their disclosures (Boiral et al., 2019; Hahn et al., 2018).
H3: Shareholder engagement positively influences the quality of sustainability reporting.

d. Competitors' Engagement and the Quality of Sustainability Reporting

Competitive dynamics influence sustainability reporting as firms imitate peers to maintain strategic legitimacy (Berthelot et al., 2012; Cormier et al., 2017). Sustainability disclosure is also a strategic tool used in making a differentiation and reputation in industries with high competition (Iglesias, Markovic and Rialp, 2019; Huang and Kung, 2010). By comparing the reporting practices of their rivals, firms would be likely to follow better reporting standards in order to indicate better sustainability performance (Lock and Seele, 2021; Boiral et al., 2019). Thus, competition leads to a process of mimicking where companies improve the level of the reports to stay viable and acceptable within the market.
H4: Competitor engagement positively influences the quality of sustainability reporting.

III. RESEARCH METHODOLOGY

The population in this study comprises all companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. From this population, the study focuses on companies belonging to the energy and basic materials sectors, resulting in a total of 120 companies as the research sample. The inclusion criteria was on the presence of annual as well as sustainability reports released in the period under observation. In this study, the quantitative content analysis methodology has been chosen, as the number of keywords related to the research variables was tabulated. The textual analysis of annual report and sustainability report of the firms was done. The independent variable that was operationalized based on the number of the occurrence of keywords in relation to the type of various categories of stakeholder engagement. Table 1 shows the operationalization of the variables and measurement scales that will be utilized in the research.

Table 1. Variable Measurement

VARIABLE	INDICATOR	SCALE
Quality of Sustainability Reporting (Y)	Scores are 1 = sustainability report exists; 2 = where sustainability report exists and the firm has a sustainability committee affiliated with the board of directors; 3 = sustainability report exists and the non-audit firm provides assurance; 4 = sustainability report exists and assurance is provided by audit firms (Erin, Adegboye, and Bamigboye 2022). SRQ1, SRQ2, SRQ3 and SRQ4.	Nominal
Customers Engagement (X1)	Total number of mentions of CUSTOMER, CONSUMER, KONSUMEN, and PELANGGAN in annual and sustainability reports (Agus Ardiana 2019).	Discrete
Media's Engagement (X2)	Total number of mentions of MEDIA in annual and sustainability reports (Agus Ardiana 2019).	Discrete
Shareholders' Engagement (X3)	Total number of mentions of SHAREHOLDERS, PEMEGANG SAHAM, and PERSEROAN in annual and sustainability reports (Agus Ardiana 2019).	Discrete
Competitors' Engagement (X4)	Total number of mentions of COMPETITORS, KOMPETITOR, and PESAING in annual and sustainability reports (Agus Ardiana 2019).	Discrete

A. Technical Analysis

The data were analysed using multinomial logistic regression (MLR), as the dependent variable quality of sustainability reporting has four ordinal categories (polychotomous scale). This is a test that allows an estimation of the likelihood of each outcome in respect to a reference category simultaneously (Hosmer and Lemeshow, 2000). The multinomial logistic model in its general form takes the following form:

$$\pi_j(x) = \frac{exp^{gj^{(x)}}}{1 + exp^{g1^{(x)}} + exp^{g2^{(x)}} + \dots + exp^{gj^{(x)}}}$$

$$g_j(x) = \text{In}\frac{[\pi(x)]}{[1-\pi(x)]} = (\beta_0 + \beta_{1i}X_i + \cdots + \beta_{ki}X_k)$$

According to Hosmer and Lemeshow (2000), when the dependent variable has 4 categories, three logit transformation models are estimated each corresponding to one of the outcome levels, with one category designated as the reference. In this study, the highest quality level of sustainability reporting (Score = 4) is used as the reference category, and three separate logit equations are generated for categories 1, 2, and 3.

The model's validity and reliability were evaluated using:

- Hosmer–Lemeshow Goodness-of-Fit Test, to assess overall model fit.
- Nagelkerke R^2, to measure the proportion of variance explained by the predictors.
- Classification Matrix (4 × 4), to compare predicted and actual classifications and determine the model's
- predictive accuracy.

The hypothesis testing was conducted using a 95% confidence level (α = 0.05). Each coefficient (β) in the multinomial logistic regression equation was tested for statistical significance using the Wald test, and the direction and magnitude of the coefficients were interpreted based on the log-odds values. To conclude, the analytical paradigm used in the study allows determining the influence of different types of stakeholder involvement to customers, media, shareholders, and competitors in the possibility of firms achieving a higher quality of sustainability reporting.

IV. RESULTS AND DISCUSSION

A. Results

a. Goodness of Fit Model

The model fit was evaluated using the Log Likelihood (–2LL) value, the Hosmer–Lemeshow Goodness-of- Fit test, and the Nagelkerke R^2 statistic. The –2 Log Likelihood value decreased from 245.563 to 221.515, indicating that the overall model fits the data well. The Chi-square value given by the Hosmer-Lemeshow test was 312.228 ($p = 0.897$), and it did not indicate a significant variation between the observed and predicted classifications. Therefore, the model is suitable in forecasting the dependent variable. The Nagelkerke R^2 value of 0.274 implies that the sustainability reporting quality can be explained by the independent variables in the model to 27.4%, and the rest 72.6% is explained by other factors that were not reflected in the current study.

b. Multinomial Logistic Regression Analysis

A multinomial logistic regression analysis was performed since the dependent variable quality of sustainability reporting (SRQ) is categorical with four ordered levels. The regression results are summarized in Table 2.

Table 2. Multiple Logistic Regression Test Results

SRQ[a]		B	Std. Error	Wald	df	Sig.	Exp(B)
Score 1 SRQ	Intercept	.370	1.055	.123	1	.726	
	Customer	-.023	.011	4.358	1	.037	.977
	Media	-.039	.030	1.650	1	.199	.962
	Shareholder	.001	.001	7.028	1	.008	1.001
	Competitor	.199	.185	1.154	1	.283	1.220
Score 2 SRQ	Intercept	-.520	.793	.430	1	.512	
	Customer	-.002	.005	.205	1	.650	.998
	Media	-.049	.031	2.534	1	.111	.952

	Shareholder	.000	.001	.012	1	.912	1.000
	Competitor	.143	.134	1.130	1	.288	1.153
Score 3 SRQ	Intercept	-.328	.399	.674	1	.412	
	Customer	.001	.001	.366	1	.545	1.001
	Media	-.019	.009	4.310	1	.038	.981
	Shareholder	.001	.000	8.420	1	.004	1.001
	Competitor	.060	.052	1.315	1	.251	1.062
The reference category is: Score 4 SRQ							

From the table above, three multinomial logistic regression functions were obtained as follows:

$$g_1(x) = 0.370 - 0.023x_1 - 0.039x_2 + 0.001x_3 + 0.199x_4$$
$$g_2(x) = -0.520 - 0.002x_1 - 0.049x_2 - 0.000x_3 + 0.143x_4$$
$$g_3(x) = -0.328 + 0.001x_1 - 0.019x_2 + 0.001x_3 + 0.060x_4$$

Table 3 shows the results of hypotheses test using the Wald test.

Table 3. Likelihood Ratio Tests

Effect	**Model Fitting Criteria**	**Likelihood Ratio Tests**		
		ChiSquare	**df**	**Sig.**
Intercept	222.792	1.277	3	.735
Customer	230.495	8.980	3	.030*
Media	228.993	7.479	3	.058**
Shareholder	234.725	13.210	3	.004*
Competitor	224.107	2.592	3	.459
**Represents statistical significance at α = 0.05 * Represents statistical significance at α = 0.1				

The results indicate that customer engagement (X1) and shareholder engagement (X3) significantly affect the quality of sustainability reporting, whereas media engagement (X2) and competitor engagement (X4) do not.

B. Discussion

a. Influence of Customer Engagement

Customer engagement has a significant positive effect on the quality of sustainability reporting (p = 0.030). The discovery is in line with the stakeholder theory which holds that companies should put into consideration the expectations and values of customers in their sustainability initiatives (Freeman, Harrison and Wicks, 2010). Involved customers lead to transparency and accountability and thus firms will strive to achieve high quality of their sustainability report to remain trusted. The same was discovered by Fernandez-Feijoo, Romero, and Ruiz (2014) and Rudyanto and Siregar (2018) who established that more detailed sustainability reports are made by high customer-oriented firms. Thus, reputational pressures that are caused by customers are critical in enhancing sustainability reporting (Fernandez-Feijoo, Romero & Ruiz, 2014).

b. Influence of Media Engagement

Media engagement was not found to have a statistically significant effect on sustainability report quality (p = 0.058). Even though the authors believe that the stakeholder theory treats the media as a strong mediator in corporate legitimacy (Surucu-Balci, Balci and Yuen, 2020), the findings of this study do not demonstrate a direct relationship between this influence and reporting quality. Past studies by Lodhia, Kaur & Stone (2020) observed that although the media can make the firms act responsibly, the level of scrutiny differs notably. Dissanayake, Tilt, and Qian (2019) similarly found that the media's effect on sustainability reporting is inconsistent, possibly because news coverage often prioritizes issues of broader public appeal over firm-specific sustainability details.

c. Influence of Shareholder Engagement

Shareholder engagement exhibits a significant positive influence on sustainability reporting quality (p = 0.004). Active participation by shareholders encourages firms to adopt transparent practices and align sustainability performance with investor expectations (Ferrero-Ferrero, Fernández-Izquierdo & Muñoz-Torres, 2018).

Engaged shareholders create long-term value by promoting corporate governance mechanisms that support sustainability (Ferrero-Ferrero et al., 2018). This finding supports earlier research by Indriyani & Yuliandhari (2022) and Rudyanto & Siregar (2018), which indicate that firms with dispersed ownership and greater shareholder activism tend to publish more credible sustainability reports.

d. Influence of Competitor Engagement

Competitor engagement does not have a significant effect on sustainability reporting (p = 0.459). Whereas the former researches implied that market rivalry may drive firms to enhance their disclosure activities (Iglesias, 2017), other researchers, including Berthelot, Coulmont and Serret (2012), did not observe any significant correlation between market rivalry and sustainability reporting.

The existing findings can be attributed to the latter, indicating that the competitive factors can only have an indirect effect like via reputation benchmarking but not direct impact on the quality of reports. Furthermore, Chygryn (2020) posited that firms may pursue sustainability reporting more for compliance or image purposes than due to competitive motivations.

V. CONCLUSION

A. Conclusion

This study examined the relationship between stakeholder engagement and the quality of sustainability reporting among energy and basic materials companies listed on the Indonesia Stock Exchange (IDX) for the 2021– 2024 period. Stakeholders analysed included customers, media, shareholders, and competitors.

The findings yield several key conclusions. First, customer engagement significantly influences the quality of sustainability reporting. A company that engages the customers at high levels will be more willing to improve the credibility and transparency of the disclosed information in order to preserve the trust of the customers and increase the corporate reputation. This argues in favor of the fact that customer engagement promotes firms to match their sustainability communication with stakeholder expectations.

Second, media engagement does not significantly affect the quality of sustainability reporting. Despite the fact that the media has a significant role to play in forming the public views and affecting the corporate legitimacy, the interaction does not always give way to quality of the reports. Reputational factors as opposed to technical or substantive quality indicators are more prevalent in media accounts, which can result in discrepancies between media visibility and reporting standards.

Third, shareholder engagement demonstrates a significant and positive influence on sustainability reporting quality. Among the findings, it was also indicated that the more shareholders participate in a firm, especially when they are dispersed, the more quality disclosure regarding sustainability would be created. Active shareholders stimulate management responsibility, support reform of governance and invest in companies that practice transparent and reliable reporting of sustainability.

Fourth, competitor engagement does not significantly impact sustainability reporting quality. This observation is in line with past studies that have recorded that competitive forces within large corporations have a trivial impact on sustainability disclosure practices. Competitor interaction can also affect the disclosures, indirectly, via benchmarking or reputational, but the role of competitor interaction in the report quality is still low. In summary,the research supports the essence of the propositions of the stakeholder theory proving that not every stakeholder group has the same impact on corporate sustainability behaviour. Companies will focus on relating to stakeholders who have the most significant impact on legitimacy and the increased value in the long term that is, customers and shareholders.

B. Limitations

This study is subject to several limitations that should be considered when interpreting the findings. First, the research focuses exclusively on four types of stakeholder engagement customers, media, shareholders, and competitors measured through the frequency of their mentions in annual and sustainability reports. Although this type of content approach is objective, it lacks the qualitative richness of stakeholder relations, and the contextual richness of the engagement undertakings. Second, the quality of sustainability reports was measured solely through the presence of assurance elements, following Erin, Adegboye & Bamigboye (2022). This might not be able to reflect the multidimensional aspect of the quality of sustainability reporting which can encompass areas of relevancy, comparability as well as balance as articulated in the global reporting initiative (GRI) criteria. Third, the study's temporal scope (2021–2024) provides a limited view of reporting practices, excluding potential long-term shifts.

C. Suggestions for Future Research

Future research can build upon these limitations to develop a more comprehensive understanding of sustainability reporting dynamics. It is recommended that upcoming studies:

1. Incorporate additional stakeholder dimensions, such as employees, creditors, suppliers, local communities, and government institutions, to provide a more holistic view of how diverse stakeholder groups influence sustainability disclosure quality.
2. Adopt broader measurement frameworks by integrating multiple indicators of sustainability report quality. This may include adopting the six qualitative characteristics of sustainability information (accuracy, completeness, comparability, timeliness, clarity, and balance) as suggested by the GRI and ISO 26000 frameworks.
3. Expand the time frame of analysis to include longer observation periods or segmented. This temporal segmentation would help researchers capture dynamic shifts in corporate behaviour and reporting standards in response to external crises.
4. Combine quantitative and qualitative methods, such as interviews or text mining using natural language processing (NLP), to enhance interpretative depth and reduce measurement bias inherent in word-count- based content analysis.

By addressing these directions, future studies could offer richer insights into how stakeholder engagement mechanisms interact with corporate governance, institutional pressures, and digital reporting innovations in shaping sustainability reporting quality.

Conflicts of Interest

The authors declare that there is no conflict of interest concerning the publishing of this paper

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