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Article

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Cogent Business & Management

Provided in Cooperation with:

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Suggested Citation: Dewi, Ayu Aryista; Saraswati, Erwin; Rahman, Aulia Fuad; Atmini, Sari (2023) : Materiality, stakeholder engagement disclosure, and corporate governance: Critical elements for the quality of sustainability reporting, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 10, Iss. 1, pp. 1-22, <https://doi.org/10.1080/23311975.2023.2175437>

This Version is available at:

<https://hdl.handle.net/10419/294273>

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To cite this article: Ayu Aryista Dewi, Erwin Saraswati, Aulia Fuad Rahman & Sari Atmini (2023) Materiality, stakeholder engagement disclosure, and corporate governance: Critical elements for the quality of sustainability reporting, Cogent Business & Management, 10:1, 2175437, DOI: [10.1080/23311975.2023.2175437](https://doi.org/10.1080/23311975.2023.2175437)

To link to this article: <https://doi.org/10.1080/23311975.2023.2175437>



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Received: 13 December 2022
Accepted: 09 January 2023

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Reviewing editor:
Collins G. Ntim, Accounting,
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Southampton, United Kingdom

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

Materiality, stakeholder engagement disclosure, and corporate governance: Critical elements for the quality of sustainability reporting

Ayu Aryista Dewi^{1*}, Erwin Saraswati², Aulia Fuad Rahman² and Sari Atmini²

Abstract: The aim of this paper is to investigate whether the level of materiality, stakeholder engagement, and corporate governance disclosure enhance the quality of sustainability reporting. The quality measured by four indexed information dimensions: relative quantity disclosure, density, accuracy, and management orientation. A quantitative content analysis was undertaken on 172 sustainability reports of non-financial Indonesian companies from 2016 to 2020. The hypothesis were tested using a panel data approach. The regression test showed that the level of materiality, stakeholder engagement, and corporate governance disclosure does not lead to the improvement of sustainability reporting quality. Further analysis on each quality dimension found that materiality disclosure has a significant positive effect on the relative quantity disclosure and has no significant effect on companies' density, accuracy, and management orientation of companies. On the other hand, stakeholder engagement and corporate governance disclosure have no significant effect on the quality index, which is consistent with the main test. These results indicate that materiality disclosure has become one of the crucial aspect for companies that significantly increasing their disclosure intention. Furthermore, companies should pay more attention to the quality of information disclosed in materiality disclosures. Finally, government must evaluate the regulation that can encourage companies to present information relevant to sustainability, which can improve the sustainability reporting quality.

Subjects: Environmental Management; Environment & Business; Business, Management and Accounting

Keywords: Materiality; Stakeholder Engagement; Corporate Governance; Sustainability Reporting Quality

1. Introduction

The intensity of companies using the GRI framework in sustainability reporting continues to increase yearly worldwide (KPMG, 2020). Using the Global Reporting Initiative (GRI) framework is expected to help companies present meaningful information and avoid excessive information, or in other words, encourage companies to improve the quality of their reporting (Global Reporting Initiative (Global Reporting Initiative (GRI), 2016). However, despite the GRI standardization efforts, the quality of sustainability reporting still needs to be debated (Diouf & Boiral, 2017) because it is considered unrealistic reports and only intended to fulfill company legitimacy (Cho et al., 2012; Junior et al., 2014).

Some researchers have found that sustainability reporting practices are symbolic by increasing the number of sustainability disclosures, otherwise reducing the substantive performance (Anugerah et al., 2018; Cho & Patten, 2007; Deegan, 2002; Michelon et al., 2015; Muhammad Nasution & Adhariani, 2016). The literature study (Michelon et al., 2021) adds that most sustainability reporting in developed countries indicates impression management actions, which distort report users' perceptions of the achievement (or failure) of a company's sustainability performance. In Indonesia, sustainability reporting is criticized because it has a low level of legibility and has the potential to mislead report users (Adhariani & du Toit, 2020). Even though the quantity of sustainability reports published by companies has increased, the quality of the reports still needs to be under GRI principles, especially the principles of comparability, clarity and balance (Permatasari et al., 2020). This is in line with the report (Alshbili et al., 2020), which revealed that Indonesia received the lowest score (21.0%) compared to Vietnam (24%), as well as Malaysia and Singapore (50%) in terms of completeness of sustainability reports.

This research is motivated by the low quality of sustainability reporting in Indonesia. This study aims to identify factors that can encourage an increase in the quality of sustainability reporting using a disclosure approach, considering that there is still little attention to reporting communication aspects. Focusing on disclosure, the research analyzes two main principles crucial in GRI reporting: materiality and stakeholder engagement (Global Reporting Initiative (GRI), 2016). The research contributes in three ways. First, the research provides a new perspective on the influence of GRI aspects on the quality of sustainability reporting in Indonesia. The literature review shows that there is still a limited number of studies that examine the quality of multidimensional disclosures. The researchers adopted the information quality measurement model developed (by Michelon et al., 2015) to add to the literature in Indonesia. A multidimensional quality assessment can provide an understanding of whether additional information, whether sustainability reporting is intended only to increase the quantity of disclosure (symbolic approach) or vice versa, presents quality sustainability information (substantive approach).

Second, looking through the lens of a stakeholder theory, the research provides new evidence about the effect of materiality and stakeholder engagement on the quality of sustainability reporting. Academic literature has discussed the importance of materiality (Freeman, 1994; Unerman & Zappettini, 2014a) and the factors that encourage companies to disclose materiality (Farooq et al., 2021; Fasan & Mio, 2017; Ngu & Amran, 2021). Meanwhile, most stakeholder engagement studies analyze the quality of communication qualitatively (Alipour et al., 2019; Anwar & Malik, 2020; Michelon et al., 2015). A review of the literature requires empirical evidence of the effect of materiality and stakeholder engagement on the quality of sustainability reporting. Thus, the results of this study have important implications for companies to understand better and implement the principles recommended by GRI in order to be able to produce quality sustainability reports.

Third, this research also contributes by providing new evidence of the effect of corporate governance guidelines in Indonesia due to the reason that most previous studies have used board roles (Bae et al., 2018; Hu & Loh, 2018) or ownership structures (Ali et al., 2017; Khan et al., 2019; Konadu et al., 2021) as a proxy of corporate governance. Therefore, this study examines the effect of governance disclosure on the quality of sustainability reporting in Indonesia. The results of this study can be used as material for evaluating the company's internal governance mechanism so that it is more oriented toward sustainability. The results of this study also provide implications for regulators to evaluate reporting standards and other policies that can encourage companies to improve the quality of sustainability reporting.

Non-financial companies were chosen as samples in this study considering that the company's operations are close to environmental and social activities and have the potential to reveal a lot of sustainability information (Correa-Garcia et al., 2020; Torelli et al., 2020). Based on an analysis of 172 sustainability reports from non-financial companies during 2016–2020, the study found that

materiality, stakeholder engagement and corporate governance had no significant effect on the quality of sustainability reporting. Research conducted additional tests by analyzing whether there were differences in the high and low report quality results. The results were consistent with the main test. Analysis was also carried out on each sustainability report quality index. Research reveals that companies that disclose more materiality will increase the number of their disclosures but need to increase the dimensions of reporting quality (depth, accuracy, and management's sustainability orientation). This concludes that sustainability disclosure practices in Indonesia tend to be symbolic.

The remainder of this paper is organized as follows. Section 2 discusses the previous literature and develops research hypotheses. Section 3 states the research design, including data collection, variable measures and the empirical model. Section 4 presents the empirical results and additional analysis. Section 5 is the conclusion.

2. Theoretical framework and literature review

The concept of sustainability reporting quality still needs to be understood and applied by various researchers because there is no universal set of principles that can shape the quality of social disclosure. Several academics have attempted to identify the qualitative characteristics of information as well as provide new insights for assessing the quality based on information content, for example, using images, volume, type of disclosure (Calabrese et al., 2016; Diouf & Boiral, 2017), or based on reporting principles (Komara et al., 2020; Permatasari et al., 2020). Research also analyzes quality based on the readability of sustainability reports (Adhariani & du Toit, 2020, 2020). Nonetheless, the majority of existing studies use a quantitative measure calculated from the probability of the presence of a disclosure item to assess reporting quality, such as (Adel et al., 2019; Alipour et al., 2019; Alshbili et al., 2020; Diouf & Boiral, 2017; Fernando & Lawrence, 2014; Khan et al., 2019; Rudyanto, 2017). On the other hand, studies (Anugerah et al., 2018; Muhammad Nasution & Adhariani, 2016) argue that quantity does not accurately describe quality unless the reporting framework is designed to measure the quality of sustainability reporting.

Sustainability reporting quality is characterized by reports containing much information about the organization's positive and negative impacts on the environment, society and the economy, providing information that embraces stakeholders' needs and avoids excessive information (Manetti, 2011). Quality of sustainability reporting also defined by information that describes management's direction, goals, and concrete actions, which are being and will be carried out to achieve sustainability goals (Azapagic, 2003). (Michelon et al., 2021). From a stakeholder perspective, sustainability reporting is used to manage corporate stakeholders (Fernando & Lawrence, 2014). Disclosure of valuable information such as information about profitable customers and markets, reporting to unions, regulators, investors, suppliers, or competitors, as well as operating weaknesses (e.g., (Harris, 1998; Leuz et al., 2004) will provide benefits significant for the sustainability of the company. Quality sustainability reporting gives hope that reporting is more than just to fulfill the company's performance or legitimacy or tends to be symbolic. Therefore, the stakeholder theory seems to be the applicable theory of business sustainability because this theory focuses on efforts management to consider all the actors that the company will face with sustainability issues to motivate management to present quality information in sustainability reporting.

In order to improve the quality of sustainability reporting, GRI recommends that companies apply GRI principles related to the quality of disclosure content, namely the principles of materiality, stakeholders, completeness, and the context of sustainability. The principles of sustainability and completeness context can be achieved if the company has fulfilled the principles of materiality and stakeholder engagement. In financial reporting, materiality is generally considered to be a threshold to influence the economic decisions of those who use the financial statements of organizations, especially investors (IASB, 2010, p. 17). Meanwhile, materiality in sustainability reporting is the company's way of prioritizing the most material sustainability issues related to

economic, social and environmental aspects. Stakeholder engagement is a way for companies to identify who the stakeholders are, how they are involved, and what their hopes and interests are in preparing a sustainability report (Calabrese et al., 2016). Studies on materiality have been carried out in various industries, for example, materiality in the banking industry (Formisano et al., 2018), universities (Lubinger et al., 2019), hospitality (Guix et al., 2018, 2019), and small, medium enterprises (Calabrese et al., 2016; Muñoz-Torres et al., 2013). To the best of the researcher's knowledge, no empirical studies have discussed the relationship between the two on the quality of sustainability reporting. Relevant materiality disclosures show at least the list of material topics discussed in the report, topic boundaries, and the timeframe for following up on material issues (Calabrese et al., 2016). Therefore this study tries to analyze the impact of applying materiality to the quality of sustainability reporting.

Furthermore, the principle of stakeholder engagement is communication or dialogue between the company and stakeholders regarding the company's sustainability. This principle shows who the stakeholders are, how they are involved, and what their hopes and interests are in preparing a sustainability report (Calabrese et al., 2016). Involving stakeholders in preparing a sustainability report will allow stakeholders to submit sustainability issues that are considered crucial to be disclosed and followed up by the company so that the information disclosed in the sustainability report becomes more relevant. The high disclosure indicator will reduce the quality of reporting when the report needs to provide information about stakeholder engagement (Anwar & Malik, 2020). This is in line with (Adhariani & du Toit, 2020; Fernando & Lawrence, 2014), who revealed that without stakeholder engagement, sustainability information may be irrelevant and tends not to report information that could threaten its reputation. Low stakeholder engagement can lead to impression management actions that lead to low-quality sustainability reporting.

In addition to the two GRI principles, the implementation of corporate governance is also a crucial aspect often associated with the quality of sustainability reporting. From the stakeholder theory perspective, implementing good corporate governance can create, protect, and harmonize value for different stakeholders (Freeman, 1994). Good corporate governance requires companies to interact with stakeholders in an equal, fair and transparent manner and to be accountable for the results of their activities to stakeholders through the disclosure of reports (OJK, 2014). Most of the literature examines the relationship between governance and sustainability reporting quality and uses the board's role as a proxy. The board of commissioners in governance functions to oversee management actions to suit the needs of stakeholders (Handajani et al., 2014; Rudyanto, 2017), while the board of directors plays a role in identifying and prioritizing sustainability issues disclosed in sustainability reports (Ngu & Amran, 2019).

In addition to the role of the board, other studies have also found a positive effect on board independence (Bae et al., 2018; Hu & Loh, 2018), ownership structure (Ali et al., 2017; Khan et al., 2019; Konadu et al., 2021), board diversity (Adel et al., 2019; Alshbili et al., 2020), as well as stakeholder pressure (Rudyanto & Siregar, 2018) on the quality of sustainability reporting. However, the results of studies (Adel et al., 2019; Z. Z. Mahmood et al., 2018) found that board independence has no effect on the quality of sustainability reporting, nor does board diversity improve reporting quality (Chang et al., 2019; Khan et al., 2019) who found. The inconsistent results of this study indicate that governance research is still needed with a more comprehensive dimensions.

This study aims to fill the gap regarding the possibilities that materiality, stakeholder engagement, and governance processes can have on the quality of sustainability reporting. The need to fulfill as much as possible the expectations and needs of all stakeholders has been extensively studied and investigated. However, the consequences of implementing these three aspects have yet to be thoroughly analyzed as important and decisive factors influencing the quality of sustainability reporting. Therefore, this study examines the effect of materiality, stakeholders and corporate governance on the quality of sustainability reporting. The relationship between materiality,

stakeholders and corporate governance with the quality of sustainability reporting is discussed in more detail after this section.

3. Materiality and quality of sustainability reporting

The study of (Torelli et al., 2020) found that companies implementing the GRI framework and using a materiality matrix will increase the depth and detail of materiality disclosures. Disclosure of high materiality will increase the meaningfulness of the information, thereby increasing the quality of sustainability reporting. On the other hand, disclosing materiality has high subjectivity. It provides an opportunity to hide damaging information about company activities, and vice versa, only displays the positive impact of company activities (Freeman, 1994). The study (Puroila & Mäkelä, 2019) found that the materiality matrix presents the most universally significant aspects of materiality, so it does not describe how companies deal with every material issue contextually.

Based on the literature review, researchers are motivated to analyze materiality practices in sustainability reporting and their impact on the quality of sustainability reporting. In line with the study's results (Safari & Areeb, 2020), adopting the materiality principle can overcome the weak transparency of sustainability reports. Therefore, the researchers argue that the more relevant material information that is relevant and disclosed means the more transparent sustainability reporting and higher sustainability reporting.

Hypothesis 1 (H1). Materiality has a significantly positive effect on the Quality of Sustainability Reporting.

4. Stakeholder engagement and quality of sustainability reporting

According to (Global Reporting Initiative (GRI), 2016, p. 2016), stakeholder engagement in sustainability reporting can improve report communication and credibility. The study's results (Torelli et al., 2020) reveal that companies that directly involve all stakeholders will better understand stakeholder expectations so that companies can accurately determine report content. However, some results find that communication between stakeholders and companies is less relevant and transparent (Anwar & Malik, 2020) and leads to impression management actions which has an impacts on the quality of sustainability reporting (Diouf & Boiral, 2017).

Based on stakeholder theory, a sustainable company must be able to embrace all the needs of different stakeholders by increasing stakeholder communication and involvement them in preparing sustainability reports. Continuity. Therefore, research believes that the stronger the level of stakeholder engagement is disclosed, the more complete of the information content of the information content and higher sustainability reporting quality. Therefore, the hypothesis proposed is as follows.

Hypothesis 2 (H2). Stakeholder engagement has a significantly positive effect on the Quality of Sustainability Reporting.

5. Corporate governance and quality of sustainability reporting

The results of previous studies that examined the relationship between corporate governance and the quality of sustainability reporting provided inconclusive and inconsistent results. The study's results (Ali et al., 2017) reveal that the corporate governance mechanism seems to substantially drives CSR disclosure initiatives. Research (Adel et al., 2019) adds that companies with a high level of corporate governance are more interested in carrying out CSR or sustainability activities. Companies with larger board sizes are more likely to practice sustainability reporting and higher reporting quality (Bae et al., 2018; Hu & Loh, 2018; Khan et al., 2019). On the contrary, a study

(Handajani et al., 2014) found that the number of boards that are too large can also cause agency problems and is ineffective in formulating sustainability strategies.

Other corporate governance proxies are also related to the CSR committee as sustainability governance. From the perspective of the role of the board, research (Bae et al., 2018; Hu & Loh, 2018) states that the board of directors independently influences companies to fulfill their societal and social legitimacy, while (Adel et al., 2019; Rudyanto & Siregar, 2018) finds that board independence is not correlated with SR quality. Meanwhile, some link the role of the CSR committee to sustainability governance. The results of the study (Adel et al., 2019; M. M. Mahmood et al., 2019) revealed that the presence of a CSR committee in governance had a significant positive effect on sustainability disclosure, however (Alshbili et al., 2020) found that the presence of a CSR committee in corporate governance has no significant effect on sustainability reporting quality.

Research believe that the results of implementing practical corporate governance guidelines will encourage companies to focus on issues that are significant and relevant to stakeholders and support management in formulating strategies to promote sustainability. Thus, better corporate governance means more relevance and higher sustainability reporting quality.

Hypothesis 3 (H3). Governance has a significantly positive effect on the Quality of Sustainability Reporting.

6. Research method

Analysis of sustainability reporting quality (SRQ) was conducted on non-financial sector companies listed on the Indonesia Stock Exchange that published sustainability and financial reports during the 2016–2020 period. Regarding to sustainability disclosure practices in Indonesia, the transposition of rules regarding sustainability disclosure through OJK No. 51/2017 (OJK, 2017) is aimed at improving corporate communication and accountability practices, increasing companies providing sustainability reports and promoting sustainable development practices in Indonesia (Adhariani & du Toit, 2020). Therefore, it was essential to assess the quality of sustainability reporting in Indonesia from the characteristics of sustainability reporting content because the quality measure is appropriate in assessing a company's sustainability commitment. Sample selected from stand-alone SR reports that used GRI Standard reporting framework and were in the form of a document format (PDF), as well as used Indonesian language so that a semantic analysis could be carried out on the texts. Based on the sample selection criteria, 172 SRs were observed. Information about the company profile, financial performance and corporate governance is obtained from the annual report. Meanwhile, information about the quality of SR, materiality, and stakeholder engagement of stakeholders was drawn from SR. The reporting framework used in the analysis is the Global Reporting Initiative-GRI (Calabrese et al., 2016) because GRI is considered the most detailed and comprehensive guideline and is the most widely used by companies in sustainability reporting (Moneva et al., 2006; Safari & Areeb, 2020). Based on (Krippendorff, 2004), content analysis is carried out in three stages:

- (1) The research unit was determined as being one sentence because sentences are considered more reliable than paragraphs and pages;
- (2) Coding procedures were established to capture the disclosure of SR information. In this procedure, the sentences in the SR being analyzed were counted and each sentence is given a value of 1 if it had information that was relevant to the SR, and value of 0 if it is not available; and
- (3) Information relevant to the SR theme was classified according to the content in the GRI Standards (1 of 26 sustainability information disclosure themes), information characteristics (qualitative, quantitative non-monetary, and monetary), and management orientation

(expectations and context, programs, policies and initiatives, goals and objectives, results and achievements).

In carrying out the coding activity, all researchers discussed and defined the basic rules for identifying and classifying sustainability disclosure content. The results of each encoding are matched to avoid intercoder reliability problems.

7. Definitions of operational variables

Sustainability Reporting Quality (SRQ) describes what and how about sustainability is disclosed by companies. GRI recommends that reports contain the information required by stakeholders but should not be excessive. In this study, the quality of SR relates to the style of writing and the relevance of sustainability. This study uses GRI Standard framework to obtain 26 themes based on sustainability disclosure indicators, as presented in Table 1.

The dimensions of Sustainability Reporting Quality (SRQ) are divided into four indices, namely relative quantity disclosure (RQT), density (DEN), Accuracy (ACC), and managerial orientation (MAN). Each index used to calculate SR quality is standardized to avoid scale effects, so each index has a value of 0 to 1. After standardization, the four indices are calculated by adding up the four indices divided by four which is shown in the following equation:

$$SRQ_{it} = \frac{RQT_{it} + DEN_{it} + ACC_{it} + MAN_{it}}{4} \quad (1)$$

Information:

RQT_{it} , DEN_{it} , ACC_{it} , and MAN_{it} are standardized SRQ index

Two aspects can be used to measure the quantity of information in this study, namely, based on the absolute number of items disclosed (RQT) and the overall weight of the information provided (DEN). Relative quantity disclosure (RQT) describes how much information companies disclose in the same industry. Better RQT values illustrate that companies disclose more relevant information than companies in the same industry. In other words, RQT_{it} is a standard residual regression model using industry and company size (Michelon et al., 2015), with the OLS model equation as follows.

$$DISC_{it} = \beta_0 + \sum_{j=1}^k \beta_{k+1} SIZE_{it} + \varepsilon_{it} \quad (2)$$

Then, RQT can be calculated by the following formula:

$$RQT_{it} = DISC_{it} - \widehat{DISC}_{it} \quad (3)$$

Information:

RQT_{it} = Relative quantity disclosure index for the company i in year t

$Disc_{it}$ = observed level of disclosure for a company i in year t

\widehat{DISC}_{it} = Estimated disclosure level for a company i in year t

IND_j = industry level for a company i in year t

size = total sales for a company i in year t

The density index (DEN) illustrates the level of relevance of the context of sustainability in disclosure by comparing sentences of sustainability with d with the total sentences disclosed in the SR. The analysis is performed by counting each sentence and is given a value of 1 if it contains

Table 1. Sustainability Reporting Theme

Content	Sustainability Reporting Theme
Environment items	Materials
	Energy
	Biodiversity
	Emissions, Effluents, And Waste
	Environmental Compliance
	Supplier Environmental Assessment
Social	Employment
	Occupational Health And Safety
	Training and Education
	Diversity and Social Community
	Human Right Assessment
	Supplier Social Assessment
	Non-Discrimination
	Freedom Of Association and Collective Bargaining
	Child Labour
	Prevention Of Forced and Compulsory Labour
	Security Practices
	Indigenous Rights
Society	Local Community
	Anti-Corruption
	Public Policy
	Anti-Competitive Behaviour
	Customer Health and Safety
	Product And Service Labelling
Semantic properties	Customer Privacy
	Social Compliance
	Qualitative
Accuracy	Quantitative
	Monetary
Managerial Orientation	
Boilerplate approach	Expectations and context Programs, policies, and initiatives
Committed approach	Objectives and goals Results and outcomes

SR information but a value of 0 if SR information is unavailable. The density ratio compares the number of sentences of SR information presented to the total number of sentences in SR. A ratio that is close to a value of 1 indicates that the information presented is solid or relevant. The density index calculation is as follows:

$$DEN_{it} = \frac{1}{k_{it}} \sum_{j=1}^{k_{it}} SR_{ijt} \quad (4)$$

Information:

Den_{it} = density index for a company i in year t

k_{it} = number of sentences in the document analyzed for a company i in year t

$SR_{ijt} = 1$ if sentence j in the documents analyzed for a company i in year t contains SR information, and $SR_{ijt} = 0$ otherwise.

The accuracy index (ACC) is intended to understand how companies disclose information in SR. Accuracy analysis assesses whether SR activities are presented in qualitative, quantitative, or monetary information (Wiseman, 1982). The managerial orientation index describes the extent to which management is committed to disclosing SR information. The accuracy index assesses the type of information disclosed, whether qualitative, quantitative, or monetary. A Score of 3 is given for disclosure of monetary information, 2 is given points for quantitative non-monetary information, and 1 is given for qualitative disclosures, then the accuracy index is calculated as follows:

$$ACC_{it} = \frac{1}{n_{it}} \sum_{j=1}^{n_{it}} (W * SR_{ijt}) \quad (5)$$

Information:

Acc_{ident} = accuracy index for a company i in year t

n_{it} = the number of sentences containing SR information in the documents analyzed for a company i in year t .

$SR_{ijt} = 1$ if sentence j in the documents analyzed for a company i in year t contains SR information, and $SR_{ijt} = 0$ otherwise,

w = three if sentence j in the documents analyzed for a company i in year t is monetary, two if sentence j is quantitative non-monetary, and one if sentence j is qualitative.

The managerial orientation index (MAN) is divided into the time orientation of the information disclosed (forward or backward-looking) and the effectiveness of presenting information (boilerplate vs. committed approach). In meeting stakeholder expectations, management disclosures tend to focus more on disclosing definitive statements about the context, expectations, strategies, plans and intentions (backward looking-boilerplate approach) compared to the goals and objectives to be achieved by the company together with the results of the company's actions (forward-looking- committed approach; Hopwood, 2009). This index reflects information on management's time orientation (forward vs. backward-looking) and presentation of information (boilerplate vs. committed approach).

$$MAN_{it} = \frac{1}{n_{it}} \sum_{j=1}^{n_{it}} (OBJ_{ijt} + RES_{ijt}) \quad (6)$$

Information:

MAN_{it} = Managerial orientation index for a company i in year t

n_{it} = the number of sentences containing SR information in the documents analyzed for a company i in year t .

$Object = 1$ if sentence j in the SR report contains goals and objectives, $OBJ_{ijt} = 0$ otherwise.

$RES_{ijt} = 1$ if the sentence j in the analyzed document contains results and achievements for a company i in year t , and $RES_{ijt} = 0$ otherwise.

Materiality (MAT) describes the extent to which information on material topics is disclosed and how the company determines materiality in the SR. Materiality is measured by constructing a materiality disclosure index based on the GRI Standards criteria and the research construct

(Fasan & Mio, 2017). In this study, information about materiality is measured using a scale of 0–5, where 0 is given if there is no reference to materiality at all; 1 is given if it simply states that materiality is the principle followed for preparing reports; 2 is given if it includes a brief discussion of what is considered material; 3 is given if it communicate material issues arising from the analysis; 4 if the description of the process and its results are described at a higher level of detail; 5 if the report pays significant attention to materiality.

Stakeholder engagement (SEG) describes who and how stakeholders prepare the SR. Stakeholder engagement is calculated using a disclosure index of stakeholder engagement built based on the GRI Standards disclosure criteria and previous studies (Ardiana, 2021; Fasan & Mio, 2017; Torelli et al., 2020). The criteria for disclosing stakeholder engagement in this study focus on how the company presents, identifies, and selects stakeholder groups and the method of direct stakeholder engagement, as well as the company's follow-up on issues raised by stakeholders. The level of disclosure of stakeholder engagement is assessed based on the presence and absence of information about stakeholder engagement which is given a value of 1 if the information is available; otherwise, it is given a value of 0. If all criteria are presented in the SR, then the level of disclosure of stakeholder engagement gets a score of 6 in a total of 100%.

Corporate governance (GCG) describes how a company can implement corporate governance in accordance with the guidelines that apply in Indonesia. The implementation of public company governance in Indonesia is under SEOJK.04/2015 concerning Guidelines for Public Company Governance. This guideline consists of five (5) aspects of corporate governance, translated into 25 recommendations used as guidelines for implementing corporate governance in Indonesia. Therefore, disclosure about corporate governance is calculated by assessing the number of governance criteria that can be met by the company and is given a value of 1 if the information is available. If it is not available, it is given a value of 0. If all criteria are presented in the SR, then the level of governance disclosure obtains a score of 25 in a total of 100%.

This research model uses control variables, namely company size (SIZE), profitability (ROA), solvency (LEV), and social-sensitive industry environment (ESSI). Large companies have the ability to prepare higher reporting quality (Adel et al., 2019; Michelon et al., 2015). Likewise, companies with high profitability (Alipour et al., 2019; Hu & Loh, 2018; Rudyanto & Siregar, 2018) tend to make more disclosures in SR. The results (Baalouch et al., 2019; Zaid et al., 2019) further suggest that companies with high debt levels will provide higher quality SR information to reduce agency costs and negative impacts for investors. In addition, companies whose industries are close to or have the potential to damage the environment will also be more responsive to environmental issues, so they tend to be more detailed in making disclosures in their SR (Hassan & Ibrahim, 2012; Torelli et al., 2020).

Company size is measure using the company's total assets by calculating the logarithm of total assets (\ln_ta). Profitability ratios are measured using Return on Assets/ROA, while the company's debt measures by the total debt to total assets. Lastly, classification of sensitive industrial-environmental types (ESSI) is done according to research (Garcia et al., 2017) and adapted to the IDX-IC classification in Indonesia, which includes the mining, oil and gas, metal, chemical, and paper-making industries. Companies in the ESSI category are given code 1, while code 0 is given to other industries outside the ESSI category.

8. Research model

The multivariate analysis model is used to examine the effect of materiality disclosure, stakeholder engagement, and corporate governance on the quality of SR disclosure presented in equation 7.

$$SRQ_{it} = \alpha + \beta_1 MAT_{it} + \beta_2 SEG_{it} + \beta_3 GCG_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 ESSI_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (7)$$

where, SRQ_{it} = standardized SRQ index; MAT_{it} = materiality of company i in period t ; SEG_{it} = stakeholder engagement of company i in period t ; GCG_{it} = corporate governance i in period t ; $SIZE_{it}$ = Size of company i in period t ; ROA_{it} = profitability of company i in period t ; LEV_{it} = debt ratio of company i in period t ; $ESSI_{it}$ = type of company i in period t

9. Results

9.1. Descriptive analysis and correlation matrix

The number of research data is 172 sustainability reports from non-financial companies in Indonesia during 2016–2020. Table 2 describes the descriptive statistics for the quality of the SR and the independent variables included in the research model. On average, companies disclose 28 aspects of social and environmental disclosures out of a total of 63 disclosures, according to the GRI Standard. Companies disclose 134.86 (61.72%) sentences containing SR information out of an average of 218.51 sentences in SR reports, which means that the average sample reports SR information relevant to the theme of SR disclosure in this study. Most of the SRs contained 48.36% quantitative information. The others contained 30.57% and 21.07% qualitative and monetary information, respectively. Interestingly, the managerial orientation dimension indicates that the average reported sentences contain explicit information about goals compared to general information about the context and future initiatives (34.265% vs. 5.323%, respectively), as well as information about results and achievements of plans management plans which is more extensive than information containing programs and policies (70.92% vs. 29.07% respectively). This indicates that management is showing orientation and commitment to SR.

The results also show that the quality of SR ranges from 0.344 to 0.848 with an average value of 0.545. The SR value is closer to 1, indicating the better the SR quality. Materiality values range from 2 to 5, with an average value of 3.715, which means that at least the company narrates the application of materiality. In contrast, the average has presented a list of materiality aspects. Stakeholder engagement shows more than half of the company's disclosure criteria for stakeholder engagement are disclosed by the company, while 80.67% of a total of 25 corporate governance indicators have been disclosed by the company.

Table 3 presents univariate correlation coefficients, showing no multicollinearity issue in the research model.¹ Accuracy indexes (ACCs) and management orientation (Mans) were positively correlated with SRQ, while other indices, namely relative quantity indexes (RQTs) and density indexes (DENs), do not correlate with SRQ indexes. All independent variables (MAT, SEG, and GCG) were found to have an insignificant effect on the SRQ. Furthermore, ROA, leverage, and ESSI are positively correlated with RQT. Apart from RQT, ESSI also had positive correlates with Accs, Mans, and SRQ. These result show that SRQ is related to the size and type of the company's industry.

9.2. Multivariate regression analysis

Regression analysis was performed to examine the effect of MAT, SEG, and GCG on SRQ by including control variables, namely firm size, ROA, leverage, and ESSI. The research regression model is presented in equation 1. OLS regression is carried out with robust standard errors clustered at the company level and using year-fixed effects, as shown in Table 4.

The results of testing the research model with 172 observations have a coefficient of determination (R Square) of 11.96%, and 88.04% SRQ is influenced by factors outside the research model. These results indicate that materiality, stakeholder engagement, and corporate governance do not lead to an increase in the quality of SR because their implementation is only aimed at fulfilling SR indicators. This indicates disclosure practices that tend to be symbolic rather than substantive in sustainability reporting (Anugerah et al., 2018; Michelon et al., 2015).

Table 2. Descriptive Results						
Total Disclosure and semantic properties	N of observations	Mean	Std. dev	Min	Max	
Panel A. Disclosure and Semantic properties						
Quantity	172	218,5116	111,1266	40	1170	
SR Disclosure	172	134,8605	56,3827	24	260	
Total disclosure	172	28,0290	8,03823	12	42	
Accuracy	172	0,3056	0,21,788	0	1	
Quantitative	172	0,4836	0,1560	0	0,8518	
Monetary	172	0,2107	0,1704	0	1	
Goal	172	0,3426	0,1196	0,7692	0,56,923	
Objective	172	0,0053	0,0018	0,0011	0,0087	
Result	172	0,2907	0,1060	0,7692	0,4603	
Outcomes	172	0,7092	0,1060	0,6396	0,9230	
SR Quality	172	0,5462	0,1114	0,3445	0,8481	
Panel B. Independent and control variables						
Materiality	172	3,7151	0,7134	2	5	
Stakeholder Engagement	172	0,6918	0,2484	0	1	
Corporate Governance	172	0,8067	0,2126	0,04	1	
Firm Size	172	30,7708	1,0929	28,4590	33,4945	
ROA	172	0,0416	0,9467	-0,3479	0,3365	
Leverage	172	0,3012	0,1761	0,0005	0,8088	
ESSI	172	0,2865	0,4580	0	1	

Table 3. Correlation Matrix

	RQTs	Dens	Access	Mans	SRQ	MAT	SE	GCG	Size	ROA	Lev	ESSI
RQTs	1.0000											
Dens	0,7735	1.0000										
Acts	0.3300	0.0000***	1.0000									
Mans	0.0177**	0.0013**	0.0000***	1.0000								
SRQ	0.1039	0.6595	0.0000***	0.0000***	1.0000							
MAT	0.1200	0.9964	0.9146	0.1817	0.1992	1.0000						
SEG	0.7341	0.1053	0.9691	0.2731	0.1967	0.0000***	1.0000					
GCG	0.8115	0.9083	0.7454	0.8647	0.9854	0.0026***	0.2960	1.0000				
Size	0.2665	0.1093	0.1227	0.7531	0.6231	0.3977	0.1304	0.5115	1.0000			
ROA	0.0036***	0.1093	0.3304	0.2246	0.9557	0.4621	0.6251	0.4945	0.0570*	1.0000		
Lev	0.0000**	0.1085	0.3510	0.8972	0.1836	0.8668	0.2786	0.1907	0.0545*	0.0000***	1.0000	
ESSI	0.0000**	0.8425	0.0001***	0.4280	0.0000***	0.5646	0.4541	0.9851	0.07581	0.2278	0.3673	1.0000

*p < 0.1 **p < 0.05 ***p < 0,01

Table 4. Multivariate results

Variables	Coefficient	Standard Error	P-value
MAT	−0.0032	0.0092	0.720
SEG	−0.0194	0.2587	0.451
GCG	−0.0089	0.0254	0.725
Size	−0.0028	0.0120	0.810
ROA	−0.1378	0.1070	0.198
Leverage	−0.0586	0.0431	0.174
ESSI	0.7020	0.0319	0.028**
Constant	0.6691	0.3679	0.069***
Year fixed effects	YES		
Observations	172		
Wald Chi 2	9,07		
R squared	11,96%		

*p <0.1 **p <0.05

9.3. Additional analysis

Based on the SRQ measurement model, there are four indices consisting of the dimensions of the information content disclosed, the type of information disclosed, and how management approaches sustainability. Therefore, at this stage, the research analyzes more specifically the effect of MAT, SEG, and GCG on each standardized SR index (RQTs, Dens, Accs, and Mans) as described in equations (8), (9), (10) and (11).

$$RQTs_{it} = \alpha + \beta_1 MAT_{it} + \beta_2 SEG_{it} + \beta_3 GCG_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 ESSI_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (8)$$

$$Dens_{it} = \alpha + \beta_1 MAT_{it} + \beta_2 SEG_{it} + \beta_3 GCG_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 ESSI_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (9)$$

$$Accs_{it} = \alpha + \beta_1 MAT_{it} + \beta_2 SEG_{it} + \beta_3 GCG_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 ESSI_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (10)$$

$$Mans_{it} = \alpha + \beta_1 MAT_{it} + \beta_2 SEG_{it} + \beta_3 GCG_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 ESSI_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (11)$$

The OLS regression analysis model was carried out with robust standard errors clustered at the firm level and using year-fixed effects, as presented in Table 5.

The MAT variable has a positive and significant effect on RQTs but has no significant effect on Dens, Accs, and Mans. This indicates that materiality in the sustainability report can improve the quality of SR, relative to companies with similar characteristics and industries. Meanwhile, SEG and GCG had no significant effect on RQTs, Dens, ACCs, and Mans. These results were consistent with the main test which showed that SEG and GCG are not able to improve the quality of SR.

The researcher re-tested the research model on equation (7) using different scenarios, such as the CSR investment research that was carried out (Anwar & Malik, 2020). The samples were sorted from the highest to the lowest SRQ scores using the 0.33 and 0.67 percentiles to obtain three data groups: high SRQ, medium SRQ, and low SRQ. The test aims to determine the relationship between MAT, SEG and GCG in the high SRQ (SRQ_upper) and low SRQ (SRQ_under) groups. Research expect that MAT, SEG, and GCG expect to have a more decisive influence on the SRQ. Upper group on the grounds that high-quality sustainability reports are influenced by disclosing material information, involving various stakeholder groups, and implementing sustainability-oriented corporate governance.

Table 6 explains that MAT, SEG, and GCG show a positive but not significant relationship between SRQ_Upper and SRQ_Under. Nonetheless, the test results in these two groups are consistent with the main test which showed MAT, SEG, and GCG have no significant effect on SRQ. This indicates that MAT, SEG and GCG disclosures are less relevant to sustainability content and do not reflect practical management commitment to sustainability.

In the main test, ESSI had a significantly and positive effect on influences SRQ. Companies that belong to the ESSI group produce SR of higher quality than non-ESSI companies (Correa-Garcia et al., 2020; Fasan & Mio, 2017; Torelli et al., 2020). Companies that are included in the ESSI group are continuously under pressure from regulations and stakeholders, so they tend to improve the quality of their disclosures. Meanwhile, companies in the non-ESSI group that are directly related to social and environmental issues have lower pressure, so they pay less attention to the issues that are most interesting to the stakeholder category. In this study, the companies engaged in the oil and gas, metal, and paper manufacturing industries have higher sustainability activities compared to the industrial groups in construction materials, multi-sector holding, supermarkets, plantations, liquor, infrastructure, and transportation. A more detailed discussion is explained in the discussion session.

10. Discussion

This study investigates the influence of materiality, stakeholder engagement, and corporate governance on the sustainability reporting quality in non-financial companies in Indonesia. The results showed that materiality, stakeholder engagement, and corporate governance have no affect the sustainability reporting quality. Hypothesis 1 has not been able to prove that materiality has an effect on the sustainability reporting quality. The result indicated that a high or low level of materiality disclosure does not encourage an increase in reporting quality. Materiality is the company's way of identifying the most material problems related to economic, social and environmental aspects (Global Sustainability Standards Board, 2018). A high level of materiality reflects the application of relevant materiality disclosure, by presenting material aspects in detail, explaining the materiality analysis process, and disclosing the company's follow-up on material issues.

Table 5. Additional Analysis

Variables	RQTs	Dens	Accs	Mans
MAT	0.0055** (0.049)	0.0018 (0.914)	0.0004 (0.983)	-0.0137 (0.529)
SEG	-0.0057 (0.454)	-0.0405 (0.415)	-0.055 (0.335)	-0.0178 (0.770)
GCG	0.0057 (0.437)	0.0133 (0.796)	-0.0159 (0.776)	-0.0328 (0.583)
Size	-0.0174 ** (0.013)	0.0267* (0.051)	-0.0391 (0.149)	-0.0163 (0.587)
ROA	-0.008 (0.816)	0.3112* (0.052)	-0.03606 (0.130)	-0.5345** (0.039)
Lev	-0.0454 *** (0.001)	0.0983 (0.210)	-0.0587 (0.538)	-0.1323 (0.196)
ESSI	0.1251 *** (0.000)	-0.0141 (0.672)	0.1488** (0.041)	0.025 (0.753)
Constant	1.2529 (0.000)***	-0.1776 (0.673)	1.6713 (0.045)**	0.9671 (0.294)
Year fixed effects	YES	YES	YES	YES
Observations	172	172	172	172
R Squared	0,2203	0.0732	0.1090	0.0181

the p-value in brackets.

*p<0.1 **p<0.05 ***p<0.01

Table 6. Testing of MAT, SEG and GCG in SRQ_Upper and SRQ_Under

Variables	SRQ_Upper	SRQ_Under
MAT	0.0142769 (0.514)	-0.0217807 (0.110)
SE	0.0252279 (0.672)	0.00100021 (0.769)
GCG	0.0218208 (0.733)	0.0150959 (0.590)
Size	0.0042038 (0.913)	-0.0494508 (0.068)*
ROA	0.556915 (0.114)	-0.1287157 (0.380)
Leverage	-0.0794825 (0.521)	-0.0398662 (0.318)
ESSI	0.0519638 (0.346)	0.0942829 (0.108)
Year fixed effects YES	YES	YES
R square	0,1201	0,0972
Observations	57	57

the p-value in brackets. *p<0.1

Conversely, a low materiality level reflects that materiality is disclosed as a reporting principle with little material information.

Nonetheless, this study provides evidence that, on average, non-financial sector companies in Indonesia have disclosed material issues and materiality analysis processes. However, there are still few that present management responses to material issues. This is essential information for stakeholders to assess management's commitment to sustainability, which will affect the quality of sustainability reporting. The results of this study confirm that the application of materiality in sustainability reporting is still low (Beske et al., 2020; Farooq et al., 2021; Ngu & Amran, 2021; Kurniawan et al., 2019; Wu et al., 2018).

The testing of hypothesis 2 finds evidence that stakeholder engagement fails to improve the quality of sustainability reporting. Stakeholder engagement describes who and how stakeholders are directly involved in preparing sustainability reports. Reporting that provides comprehensive information about stakeholder engagement in various sustainability topics means providing more comprehensive and useful information for users of sustainability reports (Manetti, 2011). Nevertheless, this study found that the quantity of disclosure of stakeholder engagement increased from year to year, which is more than 50 percent of samples could presented stakeholder engagement indicators. This means that the available information has not been able to meet stakeholder expectations. Furthermore, communication between stakeholders and companies is less transparent and can lead to low credibility of reports (Anwar & Malik, 2020; Diouf & Boiral, 2017). In addition, the low level of evidence regarding the information on stakeholder engagement indicates a need for more awareness of translating practices into disclosures (Ardiana, 2021). Hence, reports need more information relevant to sustainability.

The results of hypothesis testing 3 show that there is no relationship between corporate governance and the quality of sustainability reporting. Specifically, disclosure of corporate governance cannot encourage an increase in the quality of sustainability reporting, in line with (Alshbili et al., 2020; Cho et al., 2012). However, this research provides substantial evidence about the implementation of corporate governance in Indonesia. On average, companies in the non-financial sector have fulfilled 80.67% of the total corporate governance disclosure criteria which means that companies have implemented corporate governance according to guidelines in Indonesia.

Corporate governance guidelines are regulated in SEOJK.04/2015 covering public company relations with shareholders, functions and roles of the board of commissioners and directors, stakeholder participation, and information disclosure. For instance, this could be an indication that corporate governance implementation in Indonesia this shows that the implementation of corporate governance in Indonesia is not linked to sustainability issues, and is only intended to fulfill the legitimacy of corporate sustainability.

As additional evidence, this study conducted two additional tests. The first test is carried out by analyzing the effect of materiality, stakeholder engagement, and corporate governance on each quality index, namely the relative disclosure index, density index, accuracy index, and management orientation index. The study found significant positive materiality in the number of disclosures. High materiality increases the number of disclosures but is deluded by qualitative information that is meaningless and irrelevant to sustainability, so it does not increase the density, accuracy and management orientation. The results also show that the effect of materiality depends on the size of the company, the level of debt, and the type of industry. In this study, company size has a significant negative effect, while the level of debt significantly positively affects the quality of sustainability reporting. The results also show that companies in the ESSI group have a higher level of materiality than the non-ESSI group due to more significant regulatory pressures and demands from stakeholders, in line with (Hassan & Ibrahim, 2012; Torelli et al., 2020).

On the other hand, the results of the stakeholder engagement and corporate governance tests are consistent with the main tests. The density index, accuracy index, and management orientation index were found to be more influenced by the characteristics and financial condition of the company. This implies that improving the quality of information depends on the resources owned by the company.

This research model uses several control variables, namely company size (SIZE), profitability (ROA), leverage (LEV), and environmentally and socially sensitive industries (ESSI). Large companies can prepare quality reports (Adel et al., 2019; Michelon et al., 2015). Likewise, companies with high profitability (Alipour et al., 2019; Hu & Loh, 2018; Rudyanto & Siregar, 2018) tend to make more disclosures in SR. The results (Baalouch et al., 2019; Zaid et al., 2019) further suggest that companies with high debt levels will provide higher quality SR information to reduce agency costs and negative impacts for investors. In addition, companies whose industries are close to or have the potential to damage the environment will also be more responsive to environmental issues, so they tend to be more detailed in making disclosures in SR (Hassan & Ibrahim, 2012; Torelli et al., 2020).

Subsequent tests were carried out by analyzing the effect of materiality, stakeholder engagement, and corporate governance based on the SRQ value in the high SRQ and low SRQ groups and expecting a more decisive influence on the high SRQ group. Research provides evidence consistent with the preliminary test that the application of materiality, stakeholder engagement, and corporate governance does not support companies to produce higher quality sustainability reporting in both high and low SRQ groups. This indicates that a high SRQ value does not reflect better reporting quality but can be caused by an increasing quantity of disclosures.

Based on the results of hypothesis testing and additional testing, it can be concluded that sustainability reporting has a tendency as a symbolic disclosure practice to improve sustainability performance and fulfill accountability to stakeholders. This is in line with findings (Komara et al., 2020; Permatasari et al., 2020) that disclosure practices in Indonesia aim to “tick more GRI boxes” and have not emphasized the substantive application of GRI principles, such as materiality, stakeholder engagement, and corporate governance. As a result, SR in Indonesia has a low level of legibility and makes it difficult for users to understand the information presented for decision-making (Adhariani & du Toit, 2020). In other words, sustainability reports are meaningless and irrelevant to sustainability. As such, this research supports the skepticism in the literature and practice regarding the low quality of sustainability reporting in Indonesia.

11. Conclusion

This study has aimed to analyze the effect of materiality, stakeholder engagement, and corporate governance on the SR quality of non-financial sector companies in Indonesia. The quality of SR is indicated by what information and how much of it disclosed, as well as how the type of information and how corporate approach to sustainability reporting. There are four indices that represent the quality of sustainability reporting, namely the relative quantity index, density index, accuracy index, and management orientation index.

Materiality and stakeholder engagement are the main principles in sustainability reporting. Materiality shows the process of identifying and prioritizing the most material aspects of the company, while stakeholder engagement shows the process of communication between the company and all stakeholders. Corporate governance describes how corporate governance mechanisms support corporate objectives and are linked to economic, environmental and social dimensions. The results show that materiality, stakeholder engagement, and corporate governance are not able to the quality of SR. However, additional testing in the research model yielded exciting results. First, companies with high materiality can increase the number of disclosures but still need to increase the accuracy, density, and management commitment. Second, materiality, stakeholder engagement, and corporate governance can not influence the quality of sustainability reporting more strongly in the high SRQ group compared to the low SRQ group.

In general, it can be said that the implementation of materiality, stakeholder engagement, and corporate governance in sustainability reporting does not help companies produce quality reports. SR's popularity and regulatory pressures lead to high demand from investors and various stakeholder groups, so companies focus on improving SR restraint indicators rather than the quality of SR information. It was found that disclosure of stakeholder engagement and corporate governance fail to improve SR quality. This indicates that communication between stakeholders and the company needs to be more transparent, and the corporate governance mechanism needs to be oriented toward sustainability. Therefore, it can be said that sustainability disclosure practices in Indonesia tend to be symbolic.

The authors realize that research has some limitations. First, it selects companies that use GRI Standard (2016) as a reporting framework so that the sample in this study is limited in number. Second, this research analysis scheme uses disclosure themes in the GRI Standards, especially for specific disclosures on social and environmental aspects. Third, the material information, stakeholder engagement, and corporate governance and corporate governance are based on general disclosure. It is possible that companies may disclose more detailed information on SR disclosures that are not included in the disclosure scheme in this study. Fourth, this research period was carried out in the early stages of implementing the GRI Standard so that different levels of disclosure could also be influenced by differences in management's ability levels and perceptions in the sustainability reporting process.

Future research could analyze the quality of SR in various sectors or industries because the characteristics company (e.g., type of industry) will affect the level of disclosure and impact SR quality. Future research could also carry out the same analysis by adding economic aspects as the theme of sustainability disclosure analysis. This will give different results because it will affect the amount of information relevant to sustainability. Another opportunity would be to increase the research period to obtain evidence on better disclosure practices, considering that the level of awareness of companies and stakeholders is increasing toward sustainability.

This research suggests that companies improve SR quality to increase stakeholder confidence about the company's sustainability commitments. The application of materiality and stakeholder principles must be re-evaluated to strengthen its role in producing high-quality reporting. Implementation of sustainability-oriented corporate governance, such as the existence of a CSR committee, is also essential to ensure management's commitment to stakeholders. The results of

this study can also be used as a consideration for regulators to develop standardization of sustainability reporting in Indonesia to make it easier to carry out an objective assessment of the quality of sustainability reporting.

Acknowledgements

This research was funded by Indonesian Education scholarships (BPI) With Indonesian Endowment Fund for Education/Lembaga Pengelola Dana Pendidikan (LPDP).

Funding

The authors received no direct funding for this research.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Citation information

Cite this article as: Materiality, stakeholder engagement disclosure, and corporate governance: Critical elements for the quality of sustainability reporting, Ayu Aryista Dewi, Erwin Saraswati, Aulia Fuad Rahman & Sari Atmini, *Cogent Business & Management* (2023), 10: 2175437.

Note

1. The researchers have examined the necessary assumptions such as multicollinearity tests. The multicollinearity assumption test results are fulfilled with each independent variable with a VIF value of less than 10, which means that there is no strong correlation between the independent variables. In addition, this study has also treated all scale values with a logarithmic transformation to achieve a normal distribution of values.

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