

An Analysis of Information Materiality on Corporate Sustainability Report: A Comprehensive Study from Mining Industry in Indonesia

Putu Sukma Kurniawan

Department of Accounting, Faculty of Economics
Universitas Pendidikan Ganesha
Singaraja, Indonesia
putusukma@undiksha.ac.id

I Gede Putu Banu Astawa

Department of Accounting, Faculty of Economics
Universitas Pendidikan Ganesha
Singaraja, Indonesia
banu.astawa@undiksha.ac.id

Edy Sujana

Department of Accounting, Faculty of Economics
Universitas Pendidikan Ganesha
Singaraja, Indonesia
edy.s@undiksha.ac.id

Luh Gede Kusuma Dewi

Department of Accounting, Faculty of Economics
Universitas Pendidikan Ganesha
Singaraja, Indonesia
dewi.kusuma.dewi@undiksha.ac.id

Abstract—This research aims to provide an overview of information that is material in sustainability reporting in Indonesia, especially material information in a sustainability report in the mining industry in Indonesia. The design of this research is document analysis. In this context, this study tries to achieve an understanding of the document's contents from a corporate sustainability report. This research used sustainability report published by companies in mining industry fields, particularly mining companies which competed in Indonesia Sustainability Reporting Award (ISRA) in 2014, 2015 and 2016. Data was collected by secondary data through the official website of Indonesia Stock Exchange as well as the company's official website. The data on sustainability reports were analyzed descriptively by analyzing the content of the sustainability report. This study can help to build a new perspective on material information in sustainability report in the Indonesian mining industry.

Keywords—*information materiality map, sustainability report, the mining industry*

I. INTRODUCTION

Sustainability report becomes a new paradigm in the corporate reporting process. The sustainability report is a new evolution of corporate reporting. At the beginning at the process of reporting, company's management is still focused on financial statements that contain financial figures. A company's performance is still based on financial figures or based on accounting numbers. The new paradigm assumes that the financial figures or accounting numbers produced by the company cannot guarantee the performance of companies in a comprehensive manner. The concept of sustainability can be interpreted that the company's management has a high interest in the consequences that may result from the company's business activities. In this case, as well as social and environmental impacts that may arise. The company's management should have a high commitment about the impact

This research process has been funded by internal fund of Faculty of Economics, Universitas Pendidikan Ganesha.

of their business activities on the environmental context [1]. Based on the concept of sustainability, the performance of the company can be assessed comprehensively from economic performance, social performance, and environmental performance context.

Corporate sustainability report outlines contain information about economic performance, social performance and environmental performance of companies. Of course, the information presented in the corporate sustainability report is information that represents the condition of the company from the perspective of the sustainability concept. In general, company's management prepare their corporate sustainability report based on the GRI standards (Global Reporting Initiative standard), which has been changed into the GRI G4 standards. The GRI framework is a comprehensive framework and perfect guideline for reporting about social performance and environmental performance of companies [2]. It is a voluntary standard for the company's management for reporting their non-financial information on social and environmental fields. GRI standard can be used as a guideline to create a corporate sustainability report. In the concept of corporate reporting, there is a concept about information materiality. The information materiality concept originally developed in the context of the company's financial reporting and now has applied in the concept of corporate sustainability reporting [3]. The concept of information materiality will make the company's management to identify, select, and focus on sustainability issues and disclose an important information to all stakeholders. Company's management will disclose some material information which has a significant impact on the company's business activities.

The main reason this study uses mining industry as an object and focuses on the materiality of information on corporate sustainability report is based on several things, namely (1) some of the literature explains that sustainability reporting is issued by the industries which base its business operations can damage the environment. The mining industry

is an industry which the main operating activities in this industry can produce damage to social community and environment. (2) The sustainability report covers three main issues, namely economic performance, social performance and environmental performance. In this context, it is important to identify the social performance and the environmental performance of the mining industry. (3) The concept of information materiality is very important to know so we can present information that is required by the stakeholders, which in this case are the stakeholders in the mining industry. The material information will greatly help all stakeholders in the context of the decision-making process. Another background underlying the author choose the topic about information materiality is based on research conducted by GRI (Global Reporting Initiative) and RobecoSAM in 2015 that examined the materiality of information and its impact on the company's management and investors. The GRI has examined the information materiality concept or material information on mining sector [4]. The research results provided benefits to strengthen the company's sustainability reporting process [5]. Another benefit is that we can estimate the impact that may result from the company's business activities to the stakeholders (the internal stakeholders and the external stakeholders of the company). The focus of this study is to provide a new understanding of the context of information materiality in the corporate sustainability report, particularly in mining industry in Indonesia. In helping to achieve the focus of this study, this research creates an in-depth analysis and examines the sustainability report from the mining industry in Indonesia.

This research aims to provide an overview of information that is material in sustainability reporting in Indonesia, especially material information in sustainability report in mining industry in Indonesia. This article is expected to contribute to the development of sustainability reporting process in Indonesia. The authors recognize that globally there has been a very significant development in the company's sustainability reporting process. It has been many company's management that realize the importance of corporate sustainability reporting process. The biggest benefit for company's management from sustainability reporting process is to maintain the reputation management and protect the company brand. And also to improve the relationship quality with the company's stakeholders [2]. The motivation of the company's management to issue a sustainability report can be judged from the information presented in their sustainability report. If the company's management disclose the information that is really needed by their stakeholders, then it is a true motivation of management to provide comprehensive information to stakeholders, not just to improve their company brand in stakeholder's perspective. The implications of this study are expected to provide insight into the company's management regarding material information in the corporate sustainability report, particularly in the mining industry. The results of this research may also provide benefits to prospective investors where potential investors can create a more comprehensive assessment of companies. The potential investors in their decision-making process, not only concern the material information in the company's economic performance, but can also consider material information in the

company's social performance and the company's environmental performance. This study can help to build a new perspective on material information in sustainability report in Indonesian mining industry.

II. LITERATURE REVIEW

A. *The Material Information on Corporate Sustainability Report*

Sustainability report can be defined as a report containing company's economic performance, social performance, and environmental performance. The concept of sustainability is the principle concept in sustainability reporting context. The concept of sustainability explained that the company should contribute a real benefit to social community and environment and have a high concern in natural resources. In general, the concept of sustainability "forced" the company's management to think about the real impact of the company's business activities and management should contribute to their social community and environment around the company. The triple bottom lines concept can provide a deep perspective to management that the company should create a comprehensive analysis of impact which caused by the company's business activities [6]. The concept of sustainability and the triple bottom lines concept are the basic principle in social and environmental accounting. The social and environmental accounting become a trend because the attention to see the real performance from the company's management in the sustainability context [7].

Material information is important things to be served by the company's management in corporate sustainability report. The company's management should be able to determine which information is relevant for the company and for all stakeholders. This is because the information materiality influence the company's stakeholders in the decision-making process context. There is one way to make the non-financial information in a sustainability report become more important [2]. The financial sector (capital market) must be able to give more attention to the non-financial information [2]. The results of that research, [2] showed that the institutional investors still have a little attention in non-financial data or non-financial information. But the good news in this context is today many indexes in the stock market using concept of sustainability. The example of the stock market based on the concept of sustainability such as the Dow Jones Sustainability Index which contribute to the increased use of information in a sustainability report. By conducting an in-depth analysis of the performance of corporate in sustainability issue (economic performance, social performance, and environmental performance), investors can gain a better understanding of the quality of company's management and can predict the potential performance of the company in the future. This process will increase the ability of investors in identifying and estimating the value of their investment in the future. The quality of information on corporate sustainability report will determine the quality of investment decisions-making process. The 83% of companies in SGX top 50 reported aspects of sustainability as information which is material to the company and 63% of these companies provide evidence of how to identify issues in sustainability context [8]. The companies which have a good

level of disclosure in sustainability issues have a better performance in the capital market than the company with a lower level of disclosure in the sustainability context [9]. This fact suggests that the company's management should realize the importance of information related to the issue of sustainability in the decision-making process by investors and investors also had to respond to sustainability issues that have been revealed by the company's management.

III. RESEARCH METHODS

The design of this research was a document analysis method. In this context, this study tries to achieve an understanding of the document's contents from a corporate sustainability report. This research method is based on research conducted by previous researchers, which used content analysis in their study [10]. This analysis technique (content analysis) can be used to get a deeper understanding of the contents of a report in this context is the corporate sustainability report. The first stage in this research is creating an analysis process to identify material information in the sustainability report and subsequently prepared an information materiality map. This study was also based on the research that created the materiality analysis model on corporate sustainability report [11]. The materiality analysis is important for the company's management [11]. That model can help the company's management to determine the material issues in their sustainability report context. And also to enhance the quality of communication in the context of sustainability with their company's stakeholders.

The object of this study is sustainability reporting process in mining industry in Indonesia. This research used sustainability report published by companies in mining industry fields, particularly mining companies which competed in Indonesia Sustainability Reporting Award (ISRA) in 2014, 2015 and 2016. Indonesia Sustainability Reporting Award is a national competition to examine the company's sustainability report and this competition was held by National Center for Sustainability Reporting (NCSR). This study used corporate sustainability report in ISRA competition because the selection process in the competition had demonstrated or reflected the quality of sustainability reports produced by the company's management. Based on the data contained in the official website of ISRA, it can be found the information about the company in mining industry areas who won the ISRA competition. Based on the official website of ISRA then in 2014, 2015 and 2016, the mining companies that listed as the winner were PT. ANTAM (Persero) Tbk, PT. Indoraya Tambang Megah Tbk, and PT. Kaltim Prima Coal Tbk. Data was collected by secondary data through the official website of Indonesia Stock Exchange as well as the company's official website. Through the official website of Indonesia Stock Exchange and the company's official website, it can be found the sustainability report for three years from 2014 to 2016 for each company.

The data on sustainability reports were analyzed descriptively by analyzing the content of the sustainability report. The analysis was compiled by comparing the content of the sustainability report with the disclosure items contained in the GRI G4 reporting standard, particularly GRI G4 for the mining industry. On GRI G4 reporting standard, reporting

standard for the mining industry called GRI G4 Disclosures Mining Sector.

IV. RESULTS AND DISCUSSION

A. *The Characteristics of Material Information on Sustainability Report in Mining Industry*

In this stage, there will be an identification process of material information in the mining industry context on corporate sustainability report sample. In general, GRI G4 Disclosures Mining Sector contains two types of reporting, public reporting (general standard disclosures) and custom reporting (specific standard disclosures). In every kind of reporting, there are items that can be included in the sustainability report of the mining industry. In general report, there is a general standard disclosure items, such as the analysis and strategy (strategy and analysis), the profile of the organization (organizational profile), the identification of the material aspect (identified material aspects and boundaries), relationships with the company's stakeholders (stakeholder engagement), governance (good corporate governance), and ethics and integrity (ethics and integrity in business context). In the special report is divided into three types of disclosures, such as disclosure in economic aspects, disclosure in environmental aspects, and disclosure in social aspects. Disclosure in social aspects can be divided into several sub-categories, namely the practice of workers (labour practices), human rights (human rights in company's business activities), social attitudes (society), and product responsibility (product responsibility for customers). At this stage it will create an analysis of material information on each sustainability report that is used as a sample.

This phase identifying the material information on sustainability report PT. ANTAM (Persero) Tbk. in 2014, 2015 and 2016. The company's management was used core approach to create the sustainability report. In sustainability report 2014, company's management has created a matrix that contained the material information for the company and the information is also important for the company's stakeholders. The matrix that contains material information is called an information materiality matrix. Based on corporate sustainability report, it can be understood that the management of PT. ANTAM (Persero) Tbk. has created a group of information in their sustainability report in accordance with the level of materiality. In figure 1, the information that has high level materiality is the information contained in the high and high quadrant, such as (1) occupational health and safety, (2) employment, (3) economic growth, (4) community empowerment, (5) post-mining program, (6) water and waste management, and (7) improving living conditions for local communities. In the sustainability report of PT. ANTAM (Persero) Tbk. (2015), material information are (1) occupation, health, and safety, (2) effluent and waste, (3) economic performance, (4) environmental compliance, (5) the indirect economic impact, and (6) biodiversity. In the sustainability report of PT. ANTAM (Persero) Tbk. 2016, material information are (1) occupation, health, and safety, (2) effluent and waste, (3) economic performance, (4) environmental compliance, (5) the indirect economic impact, (6) biodiversity,

(7) training and education, (8) anti-corruption, and (9) energy consumption.



Fig 1. An Example of Information Materiality Matrix

This next stage is to identify the material information on the sustainability report of PT. Indoraya Tambang Megah Tbk. The company’s management was used core approach to create the sustainability report. In assessing the material aspects, management has involved all employees and stakeholders of the company. Management of PT. Indoraya Tambang Megah Tbk. has made an information materiality matrix on corporate sustainability report in 2014, 2015, and 2016. Based on information materiality matrix on corporate sustainability report (2014), material information is information which contained in a high and high quadrant. The material information are (1) occupational health and safety, (2) prevention of environmental pollution, (3) employee benefits, (4) harmonious relationship with local communities, (5) community development, and (6) training and education. Based on the information materiality matrix on corporate sustainability report 2015, then the material information are (1) education and training, (2) health and safety, (3) economic growth, (4) mine closure program, (5) waste management, (6) regulatory compliance, (7) the local living communities, (8) community empowerment, and (9) employment. Based on the information materiality matrix on corporate sustainability report (2016), then the material information are (1) education and training, (2) health and safety, (3) economic growth, (4) mine closure program, (5) waste management, (6) regulatory compliance, (7) the local living communities, (8) community empowerment, and (9) employment.

Sustainability reports of PT Kaltim Prima Coal Tbk. in 2014, 2015, and 2016 used the GRI G4 Core approach and have been guaranteed by an independent auditor. The existence of the guarantee from independent auditor can certainly improve the credibility of the corporate sustainability report. The management of PT Kaltim Prima Coal Tbk. has created an information materiality matrix for sustainability report in 2014, 2015, and 2016. Based on the information materiality matrix on corporate sustainability report (2014), it can be understood that the material information contained in the high and high quadrant. The material information are (1) a closure plan, (2) employee safety and health, (3) biodiversity protection, (4) local community engagement, (5) environmental management

and performance, (6) economic growth, (7) labor training and development, and (8) socio-economic contribution. Management of PT Kaltim Prima Coal Tbk. on sustainability report in 2015 had made a information materiality matrix. Based on the information materiality matrix on corporate sustainability report (2015), it can be seen that the material information contained in the high and high quadrant. The material information are (1) a closure plan, (2) employee safety and health, (3) biodiversity protection, (4) local community engagement, (5) environmental management and performance, (6) economic growth, (7) labor training and development, and (8) socio-economic contribution. Based on the information materiality matrix on corporate sustainability report (2016), it can be seen that the material information contained in the high and high quadrant. The material information are (1) a closure plan, (2) employee safety and health, (3) biodiversity protection, (4) local community engagement, (5) environmental management and performance, (6) economic growth, (7) labor training and development, (8) socio-economic contribution, (9) product quality and market, and (10) human rights protection.

B. Determining the Level of Significance of Sustainability Issues that have been Identified using Established Criteria

The significance level of sustainability issues that are material can be determined from the information materiality matrix contained in each corporate sustainability report. The information that has a high significance level (material information) can be determined by looking at the quadrants on the information materiality matrix. The information contains in the high and high quadrant has a high impact on the company and their stakeholders. This kind of information has a high level of significance (material information). Based on the information materiality matrix in each sustainability report, it can be created a list of material information for the mining industry in Indonesia.

C. Identifying the Impacts of Corporate Sustainability Issues Against the Interests of All Company’s Stakeholders

This stage identifies the impact of sustainability issues (material information on the sustainability context) in a sustainability report to the interests of all stakeholders of the company. All company’s management that report their sustainability areas have created the groups of their company’s stakeholders. Management of PT. ANTAM (Persero) Tbk., PT. Indoraya Tambang Megah Tbk., and PT. Kaltim Prima Coal Tbk. have made a list of the company’s stakeholders, such as (1) employees and unions, (2) NGOs and academic institutions, (3) central government, (4) local government and regulators, (5) investors and shareholders, (6) supplier and other business organizations, (7) local community and society, and (8) consumers. Identifying the impacts to the company’s stakeholders can be created by connecting between the material information and the interests of the company’s stakeholders. The economic performance of the company obviously affects the interests of investors or shareholders. The company’s management should be able to act as an agent to manage the company’s resources in order to meet the expectations of investors who acts as the principal. Information about education and training of personnel will have a high impact on the interests of employees. In this context we can understand

that the company's stakeholders can focus only on the information that will have a major impact on their behalf or have a high impact on their decision making process. The concept of material information is important in stakeholder's decision-making process [12].

TABLE I. MATERIAL INFORMATION FOR MINING INDUSTRY

Material Information in Mining Industry	
The Categories of Material Information	Information
Economic Context	- Economic growth - Regulatory compliance
Social Context	- Employee safety and health - Local community engagement - Employee training and development - Anti-corruption - Socio-economic contribution
Environmental Context	- Environmental management and performance - Biodiversity protection - Waste management - Water management - Energy consumption

D. Information Materiality Map Based on Sustainability Report in Mining Industry in Indonesia

In general, the information materiality map is created by the analysis that has been done in previous stages and contains the material information in the context of sustainability reports in mining industry companies. The basic concept in the preparation of information materiality map is based on the perspective that the level of information materiality in sustainability report has strong relationship with the level of influential impact of the information against the interests of company's stakeholders. In the model of information materiality map will be contained a map that links between the types of information and the level of impact that can be felt by the company's stakeholders. In information materiality map model, will be included the level of impact that affect the interests of the mining industry stakeholders where the level of impact can be divided into three types, namely low, medium, and high. Low impact level can be defined that the material information had little impact on the interests of the company's stakeholders and so does the meaning of medium impact level and high impact level. The basis or reference for preparing information materiality map is based on the materiality map that was developed by SASB (Sustainability Accounting Standards Board). In the concept of materiality map was created by SASB contained information that applies to each industry. In SASB materiality map, we can see the material information for specific industry.

In preparation of this information materiality map, one type of information can be material for various type of company's stakeholders. Information about company's financial performance can be material for government or regulators, investors, and employees. The investor also concern about the information on financial performance because this kind of

information has a strong relationship with their investment decisions. Employees have different interests which the economic performance of the company can be used as one measure of the company's performance and the quality of human resources. Information on the anti-corruption and fraud prevention in the company's internal management is very material for all stakeholders of the company. It is certainly in accordance with the opinion that the corporate governance is closely associated with the company's sustainability [13]. If the company's management manages the company with anti-corruption and anti-fraud principle, the company's sustainability objectives will be achieved. The structure of information materiality map is determined by the assessment conducted by the company's management. The company's management should find out who is the group of stakeholders and determine what material aspects that influence the different stakeholder groups.

Material Information in Mining Industry	Mining Industry Stakeholders						
	Consumers	Government Regulator	Investor	Employee / Labor Union	Supplier / Other Organization	Public Community / Local Community	NGOs
Economic Growth	High	High	High	High	High	Medium	Medium
Regulatory Compliance	Medium	High	High	High	Medium	High	High
Employee Safety and Health	Low	High	High	High	Medium	Medium	High
Local Community Engagement	Low	High	Low	Medium	Low	High	High
Employee Training and Development	Low	High	Medium	High	Medium	Medium	High
Anti Corruption	Medium	High	High	High	Low	High	High
Socio-Economic Contribution	Low	High	Low	Medium	Low	High	High
Environmental Management and Performance	Low	High	Low	Low	Low	High	High
Biodiversity Protection	Low	High	Low	Low	Low	High	High
Water and Waste Management	Low	High	Low	Medium	Low	High	High
Energy Consumption	Low	High	Low	Low	Low	High	High

Fig 2. Information Materiality Map for the Mining Industry

In general, the group of company's stakeholders can be divided into two, the internal stakeholders and the external stakeholders. Supposedly the company's management should provide complete and comprehensive information to all the stakeholders. It is also a moral responsibility from the company's management to manage the company based on the company's stakeholder interests. Based on this principle, the function of corporate sustainability report is as a medium of communication between the company's management with the company's stakeholders. If the company's management improve the quality of their non-financial information, they will obtain two advantages, namely (1) the quality of financial information and non-financial information will be the same so the company's stakeholders can assess the company's more comprehensive than before and (2) stakeholders can create a good decision in accordance with the quality of financial information and non-financial information. It should be

realized that one purpose of corporate reporting is to provide comprehensive information to all stakeholders of the company. The number of the company's stakeholders will demonstrate the different interests and of course to accommodate this fact, company's management should report or disclose various data and information [3]. The consequence is the time and the cost incurred to be larger, with the possibility of a small degree of effectiveness of specific information. Identification process of information materiality and its impact on company's stakeholders can be defined that company's management can focus on the material information that is required by the company's stakeholders. In this context, the company's stakeholders will obtain the necessary information or material information in a corporate sustainability report then the effectiveness of information becomes high for stakeholders decision-making process. Another opinion related to the information materiality concept was explained that the main factor to determine the materiality of the information should be made on the basis of companies or industry type [14]. This opinion supports a concept that sustainability principle of each company is different depends on the industry in which they operate [14]. The concept of materiality is important issue when performing an audit on corporate sustainability report. An another researchers proposed an idea to adopt the concept of information materiality in an audit of the company's social and environmental information [15].

E. Conclusion

The results of this study found that in the period from 2014 to 2016, material information in sustainability report in mining industry were (1) economic growth, (2) regulatory compliance, (3) employee safety and health, (4) local community engagement, (5) employee training and development, (6) anti-corruption, (7) socio-economic contribution, (8) environmental management and performance, (9) biodiversity protection, (10) waste management, (11) water management, and (12) energy consumption. Within this context, we can understand that the information materiality in corporate sustainability report is determined by the characteristics of the company, type of industry, and the characteristics of the company's stakeholders. All sample of sustainability report has presented information about financial performance, social performance, and environmental performance very well. This fact will create an assumption that corporate sustainability report will be the basis for a draft of integrated reporting. The concept of integrated reporting is expected to be a new concept that emerged from the concept of sustainability reporting and build a new paradigm in corporate reporting context. The conclusion in this study is similar to the statement in the report which states that sustainability reporting will continue to grow and in the future, there will be a good combination between the financial reporting and non-financial reporting (a new concept of integrated reporting) in the company's business context [8]. The concept of integrated reporting is a future concept for companies reporting process. The company's management

should realize that non-financial information is important in stakeholder's decision-making process. If the company's management release the strong information (disclose financial information and non-financial information in high quality), the company's stakeholder will create a business decision more comprehensively. This process will build a strong condition for our business system.

ACKNOWLEDGMENT

This research process has been funded by the internal fund from the Faculty of Economics, Universitas Pendidikan Ganesha. Thank you to the Dean of the Faculty of Economics for the funding that has been given. Mr. Edy Sujana, Mr. I Gede Banu Astawa, and Mrs. Luh Gede Kusuma Dewi thank you for your endless support for this research. We still have a strong commitment to improve the quality of sustainability reporting process in Indonesia. Thank you to all those who helped this research process.

REFERENCES

- [1] G. J. M. Braam, L. Uit de Weerd, M. Hauck, and M. A. J. Huijbregts, "Determinants of corporate environmental reporting: the importance of environmental performance and assurance," *J. Clean. Prod.*, vol. 129, pp. 724–734, Aug. 2016.
- [2] H. . Brown, M. . Jong, and D. . Levy, "Building Institutions Based on Information Disclosure: Lessons From GRI's Sustainability Reporting," *J. Clean. Prod.*, vol. 17, no. 6, pp. 571–580, 2009.
- [3] Y. Zhou, "Materiality approach in sustainability reporting: applications, dilemmas, and challenges," in *1st World Sustainability Forum, November 1 to 30*, 2011.
- [4] GRI, *Disclosures GRI G4 Sector Mining Sector*. Amsterdam: GRI, 2015.
- [5] GRI and RobecoSAM, *Defining materiality: what matters to Reporters and investors*. Amsterdam: GRI, 2015.
- [6] Nuryaman, "The effect of corporate social responsibility activities on profitability and stock price (studies on the companies listed on Indonesia Stock Exchange)," in *4th International Conference on Business and Economic Research (4th ICBER 2013)*, 2013, pp. 756–769.
- [7] N. Z. Qureshi, D. Kulshrestha, and S. B. Tiwari, "Environmental accounting and reporting: an essential component of business strategy," *Asian J. Res. Bank. Financ.*, vol. 2, no. 4, pp. 85–95, 2012.
- [8] Ernst & Young, *Materiality and Sustainability Disclosure 2015 Key Insights from the Singapore Exchange Top 50*. Singapore: Ernst & Young, 2015.
- [9] M. Khan, G. Serafeim, and A. Yoon, "Corporate sustainability: First evidence on materiality," *Account. Rev.*, vol. 91, no. 6, pp. 1697–1724, 2016.
- [10] D. C. Naraduhita and T. Sawarjuwono, "Corporate Social Responsibility: Upaya Memahami Alasan Dibalik Pengungkapan CSR Bidang Pendidikan," *J. Akunt. dan Audit.*, vol. 8, no. 2, pp. 95–108, 2012.
- [11] C.-W. Hsu, W.-H. Lee, and W.-C. Chao, "Materiality analysis model in sustainability reporting: a case study at Lite-On Technology Corporation," *J. Clean. Prod.*, vol. 57, no. 57, pp. 142–151, Oct. 2013.
- [12] G. Manetti, "The quality of stakeholder engagement in sustainability reporting: empirical evidence and critical points," *Corp. Soc. Responsib. Environ. Manag.*, vol. 18, no. 2, pp. 110–122, Mar.

- 2011.
- [13] A. Kolk, "Sustainability, accountability and corporate governance: exploring multinationals' reporting practices," *Bus. Strateg. Environ.*, vol. 17, no. 1, pp. 1–15, Jan. 2008.
- [14] R. G. Eccles, M. P. Krzus, J. Rogers, and G. Serafeim, "The Need for Sector-Specific Materiality and Sustainability Reporting Standards," *J. Appl. Corp. Financ.*, vol. 24, no. 2, pp. 65–71, Jun. 2012.
- [15] C. Edgley, M. J. Jones, and J. Atkins, "The adoption of the materiality concept in social and environmental reporting assurance: A field study approach," *Br. Account. Rev.*, vol. 47, no. 1, pp. 1–18, Mar. 2015.