Empirical Study of Profitability and Leverage on Sustainabality Reporting Disclosure in Mining Sector

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Abstract. This study aims to conduct an in-depth analysis of how profitability and leverage affect the transparency of sustainability reporting in the mining sector listed on the Indonesia Stock Exchange between of 2020-2023. Sustainability denotes the capability to fulfill current requirements without jeopardizing the ability of future generations to satisfy their own demands. Sustainability reporting is becoming increasingly important in the era of globalization and heightened environmental awareness. Sustainability reporting has become one of the important aspects of business strategy for companies in the mining sector. This is due to the increased public and stakeholder attention to the social and environmental impacts of mining activities. Profitability and leverage are two main factors that can influence transparency in sustainability reporting. Initial findings suggest a relationship between profitability and leverage in relation to the transparency of sustainability reports. This study emphasizes the importance of a transparent company when publishing sustainability reports. This can have a positive impact on the company from the perspective of stakeholders.

Keywords: Leverage, Profitability, Transparency in Sustainability Reporting

1 Introduction

Sustainability reporting has emerged as a critical component of business strategy for companies in the mining industry. This results from heightened public and stakeholder scrutiny about the social and environmental consequences of mining operations.. According to the Global Reporting Initiative (GRI), more than 80% of large companies worldwide are now reporting their sustainability impacts [1]. In the context of Indonesia, the mining sector contributes significantly to GDP, but it also faces major challenges terms of ecological and social impacts. Research by Sari [2] indicates that companies that are transparent in presenting sustainability reports tend to have a better reputation and gain higher trust from stakeholders.

Profitability and leverage are two key factors that can influence transparency in sustainability reporting. Profitability, often measured by the ratio of net income to revenue, indicates a company's ability to generate profit. On the other hand, leverage, measured by the debt-to-equity ratio, reflects the level of debt utilization by the company in financing its operational activities. Research by Wijaya & Sihombing [3] indicates that companies with high profitability tend to be more proactive in reporting

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sustainability information, as they have more resources to invest in such reports. Conversely, companies with high leverage may be more cautious in their reporting, considering the risks associated with high debt.

The main focus of this research is to understand how these two factors interact in the context of sustainability reporting, given the importance of this understanding. Research by Utami & Santoso [4] shows that there is a positive relationship between profitability and the quality of sustainability reporting. This means that more profitable companies tend to provide more complete and transparent information. On the other hand, leverage can influence managerial decisions related to reporting, companies with high debt may be more inclined to hide negative information in order to maintain their image in the eyes of creditors and investors.

The challenges in sustainability reporting in the mining sector are very diverse. First, many companies face difficulties in collecting accurate and relevant data regarding the social and environmental impacts of their operations. According to a report from the World Bank [5], the lack of effective measurement systems often hinders companies' ability to report accurate information. In addition, there are also regulatory challenges that vary from country to country, which can affect how companies conduct reporting. Research by Prasetyo & Rahardjo [6] shows that uncertainty in regulations can cause mining companies to hesitate in disclosing information that could affect their reputation.

This research primarily seeks to investigate the impact of profitability and leverage on sustainability reporting within mining corporations. This research seeks to discern the patterns and correlations between two variables and the transparency of sustainability reporting by analyzing data from mining companies listed on the Indonesia Stock Exchange (IDX). Previous research by Hidayat & Kurniawan [7] shows that companies with high profitability tend to disclose more information related to sustainability, providing a valuable reference point in this analysis.

In addition to analyzing the influence, this research also aims to provide practical recommendations for mining companies to enhance their sustainability reporting strategies. These recommendations will be based on the findings from the analysis conducted, as well as best practices from companies that have successfully engaged in sustainability reporting. Consequently, this research aspires to favorably influence the advancement of sustainability reporting methods within the mining sector, while simultaneously improving the transparency and accountability of corporations.

2 Literature Review

2.1 The Concept of Sustainability and Sustainability Reporting

Sustainability denotes the capability to fulfill current requirements without jeopardizing the ability of future generations to satisfy their own demands. According to the Brundtland Commission [8], sustainability encompasses three main pillars: economic, social, and environmental. In the context of the mining sector, sustainability not only means maximizing profits but also ensuring that mining activities do not harm the environment and provide benefits to the surrounding communities. For example, mining companies like Freeport-McMoRan in Papua, Indonesia, have implemented various sustainability initiatives to minimize environmental impact and enhance the well-being of local communities [9].

Sustainability reporting is becoming increasingly important in the era of globalization and heightened environmental awareness. The Global Reporting Initiative (GRI) defines sustainability reporting as the process of conveying the economic, environmental, and social effects of a company's operations to stakeholders.. In addition to enhancing transparency, this reporting also helps companies identify risks and opportunities related to sustainability aspects. Data from Sustainalytics reveals that companies that consistently report on sustainability tend to have better long-term performance compared to those that do not [10]. Thus, sustainability reporting becomes a strategic tool to enhance the reputation and competitiveness of companies in the global market.

2.2 Profitability in the Context of Mining Companies

Profitability is a measure of a company's ability to generate profit from its operational activities. In the mining companies, commonly used profitability indicators include net profit margin and return on assets. (ROA). According to a report from PwC [11], the global mining sector has shown a significant increase in profitability following the recovery from the COVID-19 pandemic, with an average net profit margin reaching 27%. This indicates that mining companies that can manage costs and enhance operational efficiency can achieve higher levels of profitability.

High profitability can influence a company's decisions regarding sustainability reporting. More profitable companies tend to have more resources to invest in sustainability practices and transparent reporting. A study by M. Khan & et al [12] discovered that mining firms exhibiting substantial profitability are more inclined to comprehensively disclose their sustainability efforts, hence augmenting stakeholder trust. For example, BHP Billiton, one of the largest mining companies in the world, has committed to openly reporting their sustainability performance, reflecting strong profitability and a commitment to corporate social responsibility [13].

2.3 Leverage in Mining Companies

Leverage refers to the use of debt to finance assets and enhance a company's potential profits Mining companies can categorize leverage into several types, including financial and operational leverage. Financial leverage refers to the use of debt to enhance equity returns, while operational leverage relates to the use of fixed costs within the company's cost structure. According to a report by Deloitte [14], mining companies with high leverage often face greater risks, but they also have the potential to generate higher returns if managed effectively.

A high level of leverage can affect a company's transparency and sustainability reporting. Companies with significant debt may feel pressured to demonstrate strong performance in their reports, leading them to be more transparent in sustainability reporting to attract investors and stakeholders. A study by Aljifri & Kamarudin [15] shows Companies with high debt are more inclined to use superior sustainability reporting processes to mitigate risk and bolster investor confidence. Mining companies such as Vale S.A. serve as a real example, demonstrating a commitment to transparently reporting their sustainability performance, even with a high debt load, to uphold their reputation and stakeholders' trust [16].

3 Research Methodology

3.1 Research Design

This study utilized a mixed-methods approach integrating quantitative and qualitative techniques.. The quantitative approach will allow us to statistically measure the impact of profitability and leverage on sustainability reporting transparency, whereas the qualitative approach will provide in-depth insights into mining companies' reporting practices. According to Creswell [17], asserts that combining these two approaches can yield a more comprehensive understanding of the studied phenomenon. This research aims not only to identify the relationships between the existing variables but also to understand the context and reasons behind the different reporting practices.

In the context of the mining sector, it is important to understand that this industry has unique characteristics that influence how companies report on sustainability. This sector often operates in a challenging environment, such as strict regulations and pressure from society to operate responsibly. Therefore, this research will also explore how these companies respond to these challenges through the sustainability reporting strategies they choose. The gathered data would encompass details regarding the policies, practices, and results of sustainability reporting undertaken by mining companies listed on the Indonesia Stock Exchange (BEI).

3.2 Population and Sample

The research population comprises all mining businesses listed on the Indonesia Stock Exchange (IDX) from 2020-2023. The Financial Services Authority (OJK) required these companies to comply with its reporting standards and report their sustainability activities to the public, which led to their selection. According to data from OJK, there are approximately 87 mining companies listed on the Indonesia Stock Exchange (BEI), which include various types of commodities such as coal, nickel, and gold. The selection of this time period is important for observing trends and changes in sustainability reporting practices in this sector.

From that population, we will use purposive sampling techniques to select companies that have complete and accessible annual reports and sustainability reports. Purposive sampling enables researchers to choose individuals or organizations possessing particular qualities pertinent to the research aims [18]. In this instance, we will select companies that actively participate in sustainability reporting and possess sample data for analysis.

The sample used for the quantitative side refers to purposive sampling, resulting in a final outcome of 11 companies from a population of 87 companies for data processing. Meanwhile, for the qualitative side, companies were selected that could undergo in-depth interviews until similarities in their responses to the open-ended questions were found. From the 11 sampled companies, four more agreed to serve as informants in this qualitative research method, resulting in a total of 15 informants. Thus, there is a difference in samples to broaden the results and provide a clearer picture in seeking answers to the research questions.

3.3 Data Collection Techniques

Data collection in this research will be conducted through two main techniques, namely document analysis and interviews. Initially, we will perform a document analysis of the annual and sustainability reports issued by chosen mining corporations. Annual reports typically include important financial and non-financial information, including data on profitability and leverage, while sustainability reports contain information about the social and environmental impact of the company's activities [19]. By analyzing this document, we can gather the quantitative data needed for regression analysis.

Secondly, we will conduct interviews with the company's management to gain qualitative insights into their sustainability reporting practices. The interviews will utilize a semi-structured interview guide, enabling the researcher to investigate particular subjects while granting respondents the liberty to articulate their perspectives more comprehensively [20]. Through this interview, we hope to understand the motivations behind reporting decisions, the challenges faced, and how the company strives to enhance transparency in their reporting.

The data obtained from both techniques will complement each other and provide a more comprehensive picture of sustainability reporting practices in the mining sector. In addition, document analysis and interviews will enable us to identify patterns and trends in sustainability reporting that may not be visible from just one type of data alone. Thus, we are confident that the data collection techniques used in this research will yield valid and reliable results.

3.4 Data Analysis Techniques

After the data has been collected, the next step is to conduct data analysis to test the established hypotheses. We will use regression analysis to measure profitability and leverage on sustainability reporting transparency. Regression analysis is a statistical technique frequently employed to ascertain the relationship between dependent and independent variables [21]. In this research, the dependent variable is the level of sustainability reporting transparency, while the independent variables are profitability and leverage.

Initially, we will perform a descriptive analysis to summarize the obtained data. This entails computing the mean, median, and standard deviation of the pertinent variables. Subsequently, we will use multiple regression analysis to evaluate the concurrent impacts of profitability and leverage on the transparency of sustainability reporting. We will also examine the basic assumptions of regression analysis, such as normality, homoscedasticity, and multicollinearity, to ensure the validity of the analysis results.

The results of this analysis will provide a clearer picture of the relationship between profitability, leverage, and the transparency of sustainability reporting. Furthermore, we will compare the outcomes of the quantitative analysis with the conducted interviews to achieve a more thorough understanding of sustainability reporting procedures in the mining sector. Consequently, we expect this research to substantially enhance the theory and practice of sustainability reporting within the mining sector.

4 Results and Discussion

4.1 Quantitative Analysis of the Impact of Profitability and Leverage on Sustainability Reporting

The sampling in this quantitative research uses the purposive sampling method. A total of 87 companies were screened, resulting in a final selection of 11 companies within the time frame of 2020 to 2023.

Table 1. Statistical Test Results

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	,543	,079		6,891	,000
	Profitabilitas	,001	,244	,000	,002	,998
	Leverage	-,042	,125	-,061	-,335	,739

4.2 The Influence of Profitability on Sustainability Reporting

The regression analysis results show that the significance value of the profitability variable is 0.998 greater than 0.05. From the results of this multiple linear regression analysis, it can be concluded that profitability in this study has no effect on Sustainability Reporting. Companies often disclose sustainability information not because they are profitable, but to meet the expectations of stakeholders such as consumers, investors, and society. Pressure from these groups is more influential than the company's financial condition. In addition, many countries have regulations that require companies to disclose sustainability reports, especially in sectors that have a large impact on the environment. Companies must comply with these regulations, regardless of whether or not they make large profits. Sustainability disclosure is often used as a strategy to enhance a company's reputation. Even less profitable companies may feel the need to maintain a positive image in the public eye by emphasizing their sustainability practices. In addition, companies with high profitability may not necessarily increase their sustainability reporting, as some companies may simply be driven to increase profits to satisfy shareholders. (stakeholders) [27]. So it can be concluded that the profitability hypothesis is rejected.

4.3 The Influence of Leverage on Sustainability Reporting

The regression analysis results show that the significance value of the leverage variable is 0.739 which is greater than 0.05. From the results of this multiple linear regression analysis, it can be concluded that leverage in this study has no influence on sustainability reporting. Sustainability disclosure is often used as a tool to improve or maintain a company's reputation in the eyes of the public. Even though companies have high leverage (large debt), they may still make sustainability disclosures to demonstrate their social responsibility, regardless of their debt-to-equity ratio. One of the main reasons why leverage does not affect sustainability disclosure is because sustainability disclosure is influenced more by external pressures than by the internal financial condition of the company. Stakeholders such as investors, consumers, governments and activist groups are increasingly demanding companies to act more responsibly in terms of social and environmental impacts. This pressure creates an impetus for companies to disclose sustainability information, no matter whether their leverage is high or low. Even highly leveraged companies will be encouraged to meet stakeholder expectations through sustainability disclosure, as the reputational risks associated with a lack of transparency can be more serious than the financial risks caused by leverage. In addition, the obligation to disclose sustainability reports by public companies is stated in POJK No. 51 of 2017, which requires companies with low or high debt levels to still disclose their sustainability reports. The level of corporate leverage does not affect the transparency of sustainability reporting. So it can be concluded that the leverage hypothesis is rejected.

4.4 Qualitative Analysis of Interview Results Regarding the Influence of Profitability on Sustainability Reporting

Interviews with 15 informants from diverse mining businesses reveal that profitability significantly impacts sustainability reporting. The majority of informants stated that companies with higher profit levels tend to be more active in preparing in-depth sustainability reports. For example, mining companies with a net profit margin above 20% reported that they invest more resources in preparing sustainability reports compared to companies with a net profit margin below 10%. Annual report data suggests that highly profitable corporations are more inclined to adopt international reporting standards, like GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board), in their disclosures [22].

It is important to note that the relationship between profitability and sustainability reporting is not only quantitative but also qualitative. Informants state that profitable companies have more incentives to adopt good sustainability practices, as they want to strengthen their reputation in the eyes of stakeholders. For example, PT. Freeport

Indonesia, with its high profitability, has committed to transparently reporting the social and environmental impacts of its operations. This not only enhances the company's image but also attracts investors who are more concerned about sustainability issues [23].

4.5 Qualitative Analysis of Interview Results Regarding the Influence of Leverage on Sustainability Reporting

In the analysis of the interviews, it was found that leverage, or the use of debt, also affects sustainability reporting. An informant from a company with a high level of debt admitted that they feel pressured to demonstrate greater transparency in their sustainability reports. This is due to the need to meet the expectations of creditors and investors. Companies exhibiting a debt-to-equity ratio beyond 1.5 typically disclose greater information regarding the environmental and social repercussions of their operations. Data shows that these companies often face stricter audits from financial institutions that require them to comply with sustainability standards [24].

The interview results suggest that leverage drives transparency in sustainability reporting. Informants state that companies with high debt often try to improve their image through more comprehensive sustainability reports. For example, PT Timah Tbk, which has a relatively high level of debt, has adopted more transparent reporting practices to meet stakeholder expectations. This suggests that leverage can function as a mechanism to promote greater social and environmental responsibility among firms [25].

4.6 The Relationship Between Profitability, Leverage, and Transparency

Qualitative analysis shows a synergy between profitability, leverage, and transparency in sustainability reporting. Companies with high profitability tend to have lower leverage, which in turn allows them to invest more in sustainability reporting. On the contrary, companies with high leverage feel the need to increase their transparency to meet stakeholder expectations. Research shows that companies that can balance profitability and leverage can achieve a higher level of transparency in their sustainability reports [30].

For example, PT Aneka Tambang Tbk (ANTAM) demonstrates how profitability and leverage can contribute to the transparency of sustainability reporting. With stable profitability and prudent debt management, ANTAM successfully prepared a sustainability report that meets not only national standards but also international ones. The report includes detailed information about the environmental and social impacts of their mining activities, as well as the mitigation measures taken. This not only boosts investor confidence but also sets an example for other companies in the same sector to follow suit [2].

5 Conclusion

5.1 Summary of Key Findings

Based on the research results and data processed using both quantitative and qualitative methods, several key findings can be concluded as follows:

1. In this study, we have explored the strategic role of sustainability reporting in the mining sector, focusing on profitability and leverage as key factors influencing transparency. Research findings indicate that companies with high profitability tend to provide more comprehensive and transparent sustainability reports. Data from the Global Reporting Initiative (GRI) shows that companies with net profits above the industry average are more likely to adopt higher reporting standards, reflecting their commitment to sustainability practices [1].
2. Leverage plays an important role in enhancing transparency. Companies with high debt ratios often face pressure from stakeholders to be more transparent about the risks they face, including environmental and social risks. A study by Wang et al. [25] shows that companies with high leverage tend to be more active in sustainability reporting, as they seek to reduce investor uncertainty and enhance public trust. This finding indicates that financial factors not only affect the economic performance of companies but also have implications for their social responsibility.
3. An analysis of 15 informants from various mining companies shows that awareness of the importance of transparency in sustainability reporting is increasing. Informants stated that pressure from the public, regulators, and investors has pushed them to improve the quality of their sustainability reports. For example, PT Freeport Indonesia, which operates in Papua, has improved its sustainability reporting after receiving feedback from the local community and other stakeholders [31]
4. We found that companies that integrate sustainability reporting with their business strategies tend to be more successful in attracting investments. Data shows that companies that publish sustainability reports integrated with their annual reports experience a significant increase in stock value compared to companies that do not do so [32]. This shows that transparency in reporting is not only beneficial for a company's reputation but also contributes to long-term financial performance.
5. Finally, this research emphasizes the importance of collaboration between companies, the government, and society in creating an environment that supports effective sustainability reporting. With good cooperation, companies can better understand the expectations and needs of stakeholders, which in turn will enhance the quality of their sustainability reports and encourage more responsible business practices.

5.2 Suggestions for Future Research

Based on the findings obtained, there are several suggestions for further research as follows:

1. Additional study may be undertaken to investigate the correlation between diverse sustainability initiatives and financial success within the mining industry. For example, a more in-depth longitudinal analysis could provide insights into how changes in sustainability reporting practices impact a company's profitability over time.
6. It is important to explore the role of technology in enhancing the transparency of sustainability reporting. With the advancement of information and communication technology, companies can utilize digital platforms to present their sustainability reports in a more interactive and engaging manner. This research could include case studies of companies that have successfully implemented that technology.
7. Research that focuses more on the social impact of sustainability reporting in the mining sector is also greatly needed. Considering that this sector often operates in areas with significant social impacts, a better understanding of how sustainability reports can reflect and influence the social conditions surrounding mining sites would be very valuable.
8. We also recommend that future research consider an international perspective in sustainability reporting. Considering that practices and reporting standards can vary significantly between countries, comparative studies of mining companies across different nations can provide broader insights into the challenges and opportunities in sustainability reporting.
9. Finally, collaboration between academics, practitioners, and other stakeholders must be encouraged to create a better framework for sustainability reporting. This research involving various perspectives will help identify best practices and encourage the adoption of higher reporting standards across the mining sector.

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