American Journal of Economic and Management Business
e-ISSN: 2835-5199
Vol. 4 No. 12 Desember 2025

Exploration of the Potential of Greenwashing in the Sustainability Report of Cement Companies in Indonesia

Nurul Widiana Amin*, I Putu Sudana, I Gusti Ayu Nyoman Budiasih, Komang Ayu Krisnadewi,
Universitas Udayana, Indonesia
Email: nurulwidianaa379o@gmail.com*

Abstract

This study explores the potential for greenwashing in the sustainability reports of cement companies in Indonesia through a multiple case study approach involving PT Semen A, PT Semen B, PT Semen C, and PT Semen D. Grounded in legitimacy theory, it examines how companies construct sustainability narratives and deploy strategic disclosure practices to maintain social legitimacy despite media scrutiny of their environmental, social, and governance (ESG) impacts. Five analytical indicators—selective disclosure, decoupling, attention deflection, claim greenwashing, and firm-level greenwashing—are employed to identify discrepancies between corporate narratives and operational realities. Data analysis is conducted through qualitative content analysis, which systematically cross-checks sustainability reports against media coverage from the same reporting year to reveal inconsistencies and omissions. The findings reveal that all four companies demonstrate varying intensities of greenwashing practices: PT Semen A and PT Semen B exhibit significant material issue omissions, particularly regarding environmental damage and worker safety incidents; PT Semen C displays the highest intensity of greenwashing, characterized by internal data inconsistencies and systematic exclusion of social and environmental conflicts; and PT Semen D, while demonstrating lower overall greenwashing levels, notably omits governance-related corruption issues. The study underscores the critical need for enhanced regulatory frameworks, substantive external assurance mechanisms, and greater accountability in sustainability reporting within Indonesia's cement sector to ensure genuine transparency and effective stakeholder engagement.

Keywords: *greenwashing; sustainability reporting; cement companies; legitimacy theory; multiple case studies.*

INTRODUCTION

Sustainability reports, or in English better known as *Sustainability Report* (SR), are reports prepared by organizations as a form of communication to provide information about social, environmental, and economic activities (Agustina, 2022). Sustainability reports are considered crucial because they convey the company's impact and environmental performance, thereby increasing transparency and accountability. Furthermore, Sneideriene & Legenzova (2025) explained that preparing sustainability reports has positive implications for strengthening company loyalty, improving public perception, conveying positive signals to stakeholders, and promoting the company's image and reputation.

Companies voluntarily publish sustainability reports to meet external and internal demands. These reports must be transparent about the risks and opportunities they face regarding social and environmental activities, regardless of the company's economic activities (Sukoharsono & Andayani, 2021:67). Sustainability reports are not only a place to showcase successes but also a forum to acknowledge and explain adverse impacts that may arise. Thus, stakeholders—such as investors, consumers, and the public—have the right to balanced and comprehensive information to evaluate the company's overall performance (Riska et al., 2024).

However, sustainability reporting practices have increasingly faced critical scrutiny from various stakeholders. Sustainability reports are not always welcomed positively. The practice of preparing them also attracts criticism because it raises questions about the honesty of disclosures. This stems from the fact that most sustainability reporting is voluntary, with no mandatory audit mechanisms (O'Dwyawer & Unerman, 2020). Social activists, especially environmental ones, have expressed concerns about fraudulent practices that companies use to hide wrongdoing or adverse actions. *Greenwash* refers to the manipulative practices that companies cleverly employ to shape their image in the eyes of the public, investors, and regulators (Abidoye, 2017; Van Noorloos et al., 2020; Venter et al., 2019; Wei & Zhang, 2024).

Research shows that many construction companies, including those in the cement industry, are suspected of greenwashing in their sustainability reports. Johnsson (2020) found that companies tend to report only on achievements like carbon emission reductions or renewable energy use, while ignoring social impacts and hazardous waste management. Ruiz-Blanco et al. (2022) emphasize the need for concrete actions that align with companies' sustainability claims. Adams et al. (2022) and Machado et al. (2021) reveal that sustainability reports are often used for image management, avoiding responsibility for negative operational impacts. Kwarto et al. (2024) and other studies (Nisa & Sisdianto, 2025; Pertiwi & Qonita, 2025) highlight the potential for fraud in sustainability reporting. The cement industry, though vital for development, produces pollutants that impact surrounding communities' health, such as decreased lung function (Sulasmi et al., 2022). Criticism of cement factories' negative effects—like air pollution, noise, and karst destruction—has appeared in various media reports (Ahman Karim AR, 2023; Tempo, 2024; CNN Indonesia, 2024; Suara Indonesia, 2024). Research by Zikayah et al. (2023) states that cement plant operations cause severe environmental damage, including land conversion and social conflict, raising questions about companies' honesty in reporting operational impacts.

Despite the substantial body of research examining greenwashing in developed countries, significant gaps remain in understanding how these practices manifest in developing nations, particularly Indonesia. Previous studies by Kwarto et al. (2024), Adams et al. (2022), and Machado et al. (2021) have predominantly focused on sustainability reporting in developed countries, revealing that companies strategically use these reports for image management rather than genuine transparency. While these findings provide valuable insights, their direct transferability to developing countries like Indonesia remains questionable. As Meutia (2022) argues, reporting contexts in developed countries cannot simply be applied to developing nations due to fundamental differences in political, economic, regulatory, and cultural conditions. Furthermore, as Mappiasse & Saleh (2025) explain, greenwashing lacks specific regulatory frameworks in Indonesia, making legal enforcement reliant on general norms in Law No. 8 of 1999 concerning Consumer Protection (UUPK), which creates enforcement ambiguity. This regulatory vacuum, combined with weaker institutional oversight compared to developed nations, potentially fosters greenwashing practices. Additionally, existing research has not adequately examined the cement industry specifically in the Indonesian context, despite its critical role in national development and substantial environmental footprint. The cement industry presents a compelling case amid intense media scrutiny of controversial operations and documented environmental destruction (Zikayah et al., 2023), yet comprehensive analysis of how these companies construct sustainability narratives is absent from the literature.

Furthermore, selecting cement companies as the research focus is justified by media reports that intensively highlight controversies from cement factory operations in Indonesia. Zikayah et al. (2023) reveal that these operations have many negative impacts. Thus, this study aims to investigate whether sustainability disclosures by Indonesian cement companies—which significantly contribute to environmental destruction—also indicate potential greenwashing practices. The title of this research, *Exploration of the Potential of Greenwashing in the Sustainability Report of Cement Companies in Indonesia*, underscores this focus.

This research employs legitimacy theory as its main theoretical framework. This theory posits that companies strive to ensure their activities remain within the boundaries of community bonds and norms. The social contract between a company and its surrounding community requires responsiveness to environmental diversity and alignment with societal values through business operations (Siladjaja et al., 2023). Sustainability reports can help gain legitimacy by disclosing information that aligns with standards, demonstrating that operations conform to prevailing views or assumptions.

This research aims to explore the potential of greenwashing practices that may occur in Indonesia, particularly in the cement sector. This focus stems from the industry's significant role in national development—especially infrastructure—and its status as one of the largest emission contributors. The researchers seek to assess the alignment between cement companies' sustainability reports and their concrete actions, which often provoke pro and con reactions. It is hoped that the findings will offer new insights for readers and serve as a reference for stakeholders in promoting sustainable business practices aligned with applicable standards.

Theoretically, this research contributes to legitimacy theory literature by showing that greenwashing is not merely misleading communication but also a legitimacy-seeking strategy. Practically, it provides insights for cement companies and other extractive industries to enhance transparency in sustainability reports by disclosing true operating conditions, including risks and impacts. This is expected to improve disclosure quality, reduce greenwashing, and support long-term operational sustainability.

METHOD

This study employed a qualitative approach with a multiple case study method to analyze greenwashing practices in the sustainability reports of Indonesian cement companies (Yin, 2018). Four cement companies were selected based on negative environmental cases highlighted in mass media and their relevant sustainability reports.

Data were drawn from the companies' sustainability reports and online media coverage of environmental, social, and governance issues. Media data were sorted by year and matched with corresponding sustainability reports to identify alignments or inconsistencies between company narratives and reported realities. Analysis was conducted using ATLAS.ti 25 software for coding and thematic pattern identification across cases, yielding findings on greenwashing practices.

RESULT AND DISCUSSION

Overview of Research Regions and Regions

This research examines four large Indonesian cement companies—PT Semen A, PT Semen B, PT Semen C, and PT Semen D—that publish sustainability reports, each operating in diverse geographical, social, and environmental contexts. PT Semen A, founded in 1953, is a holding company with 17 subsidiaries in cement and non-cement industries, achieving 69,572,000 tons in domestic and regional sales in 2024. PT Semen B, established in 1971, produces 14,860,000 tons annually from four factories and operates eight subsidiaries in various locations across Indonesia. PT Semen C, founded in 2011, has an annual production of 5,000,000 tons and runs an integrated cement factory and clinker production facility in Banten, with additional factories in several provinces. PT Semen D, established in 1974, produces 1,850,000 tons annually from its three cement factories in Baturaja, South Sumatra, and operates bagging facilities in Palembang and Panjang.

Description of Research Data

The research data for this study is secondary, sourced from sustainability reports published by cement companies in Indonesia, which serve as the primary focus of the study. Additional data is gathered from credible media sources such as Tempo, CNN Indonesia, and Suara Indonesia, as well as local media, highlighting social and environmental issues related to cement company operations. The data from the sustainability reports has been sorted for content analysis. By utilizing these two data sources, the study aims to highlight the difference between the official narratives constructed by the companies and the external realities reported by the media, providing a more comprehensive analysis of potential greenwashing practices. The research will present a narrative centered on sustainability claims, normative statements, and disclosures related to greenwashing indicators, excluding descriptive narratives unrelated to environmental, social, and governance issues to maintain focus.

1. Cement company sustainability report

In their 2024 sustainability reports, PT Semen A emphasizes the importance of creating a conducive work environment, offering periodic medical check-ups, and ensuring that suppliers have no history of environmental damage. However, their cement plants face coastal flooding risks, potentially impacting revenue by up to 1.2% by 2050. PT Semen B reports no significant environmental complaints, maintains effective K3 management systems, and has reduced CO2 emissions by 16.5% since 2010. They focus on reducing workplace risks through engineering controls and PPE. PT Semen C highlights its commitment to community sustainability, with no work accidents or hazardous waste spills in 2024. The company regularly engages with stakeholders and minimizes negative impacts while respecting local community rights. PT Semen D reports full legal compliance with no violations in 2024, continues to implement transparency in supplier selection, and addresses environmental impacts from mining operations, including noise and dust.

2. Article media

The cement industry in Indonesia faces significant scrutiny and controversy in its sustainability reports. PT Semen C has been criticized for social and environmental issues, such as accusations of unfair employment practices, including the termination of local employees in favor of foreign workers, and the environmental damage caused by coal barges that polluted coastal areas, affecting fishermen's livelihoods. Additionally, the community near the cement plant complained about the harmful effects of vibration and noise from limestone blasting. PT Semen A also faces public criticism, particularly in Rembang where mining activities have contributed to the environmental damage in the Kendeng Mountains, causing floods. Furthermore, an explosion at its Padang factory raised concerns over worker safety. PT Semen B has faced allegations of neglecting workers' rights, including unpaid health insurance, salary delays, and unsafe working conditions, where cement dust exposure led to health problems. In response to environmental concerns, PT Semen B faced legal actions, including a climate lawsuit filed by the people of Pari Island for environmental damages. PT Semen D, on the other hand, has been involved in financial governance issues, with its subsidiary being investigated for corruption and misuse of company funds, leading to substantial state losses. These issues highlight the pressing need for better corporate governance and more sustainable practices in the cement industry.

Data Analysis

This study analyzes the sustainability reports of four cement companies in Indonesia—PT Semen A, PT Semen B, PT Semen C, and PT Semen D—using qualitative content analysis to detect potential greenwashing practices. The analysis is based on indicators of greenwashing such as decoupling, selective disclosure, attention deflection, and claim greenwashing, with the help of ATLAS.ti software.

For PT Semen A, the study reveals clear greenwashing practices, particularly through selective disclosure and decoupling. The company emphasizes positive narratives, such as a focus on Medical Check-Up (MCU) programs and flood risk from an operational perspective, while omitting critical environmental issues like the karst damage in the Kendeng Mountains, which led to floods. Furthermore, PT Semen A presents a decoupled narrative, where the company’s positive environmental claims are not aligned with the reality of its operational practices. Additionally, the selective omission of significant issues, such as worker accidents and environmental damage, further contributes to the greenwashing narrative. The company also uses external assurance from PT SUCOFINDO to strengthen its legitimacy, but the assurance provided does not substantively address the most material issues, reinforcing a symbolic legitimacy rather than genuine transparency.

PT Semen B’s analysis also highlights greenwashing, particularly through selective disclosure and decoupling. The company’s report claims no significant negative impacts, but media reports point to issues such as a climate lawsuit and unsafe working conditions in its Batam facility. The selective omission of these issues from the sustainability report contrasts with the media coverage of environmental harm and health risks faced by workers. Additionally, PT Semen B's reliance on external assurance appears weak, as the scope of assurance is limited to internal processes and does not address the most critical environmental and social concerns.

PT Semen C shows a strong potential for greenwashing as well. Its sustainability report downplays critical issues such as marine pollution caused by coal barges and the negative impacts of blasting on local communities. The report presents a highly positive image of the company, with no mention of the controversies highlighted in the media, such as social conflicts and environmental harm. The company's decoupled narrative is evident in the discrepancy between its optimistic claims and the reality reported by the media. PT Semen C also engages in attention deflection, focusing on less significant issues like road watering to reduce dust, while diverting attention from more critical operational impacts, such as the environmental damage from its mining practices.

PT Semen D, despite receiving minimal media attention, is also susceptible to greenwashing. The company's sustainability reports omit any mention of a major corruption case within its subsidiaries, which resulted in a state loss of Rp 2.6 billion. This omission is a clear example of decoupling, where the company's claim of compliance and integrity contrasts with the reality of internal governance issues. While PT Semen D is more transparent about certain operational risks, such as blasting in limestone mining, the lack of external assurance weakens its sustainability report, leaving it open to greenwashing accusations. The absence of independent verification increases the risk that the company's claims are based on symbolic framing rather than substantive accuracy.

In conclusion, all four companies display varying degrees of greenwashing, primarily through selective disclosure, decoupling, attention deflection, and claim greenwashing. While PT Semen D shows some signs of openness, especially regarding its mining operations, its lack of external assurance increases the potential for misleading claims. The findings underline the importance of independent verification and transparent reporting to prevent greenwashing in corporate sustainability practices.

Discussion of Research Results

This research departs from the main question, namely, is there the potential for greenwashing in the sustainability report of cement companies, and the strategies used by the company in carrying out greenwashing practices?. The analysis in the previous sub-chapter describes how each case of a cement company shows a symbolic pattern in sustainability reporting that is not entirely in line with operational conditions or media findings.

The findings of the study show that all the companies studied starting from PT Semen A, PT Semen B, PT Semen C, and PT Semen D display the potential for greenwashing with different levels and strategies. When the narrative of the sustainability report is compared with the media coverage in the same year, it is seen that there is an information gap, the elimination of material issues, and the prominence of symbolic sustainability claims. These patterns indicate that the disclosure made by the company is not only aimed at conveying information, but rather as a strategic effort to maintain legitimacy in the eyes of the public. Therefore, this discussion is prepared to explain the cross case cases and patterns of greenwashing that appear consistently and differently among companies, as well as show their relationship with the framework of legitimacy theory.

The findings of the study show that companies use sustainability reports as a strategy to maintain their legitimacy. PT Semen C and PT Semen B, which face the highest social pressure and media spotlight, display the strongest greenwashing patterns through the elimination of material issues and a very positive sustainability narrative. On the other hand, PT Semen D, which is under lower public pressure, shows a lighter intensity of greenwashing and better transparency, including more transparency in explaining the operational impact on the surrounding community. This strategy is in line with the opinion of Lindblom (1994) who was quoted by Lindblom (1994) as (Gray et al ., 1995) saying that when a company's legitimacy is increasingly threatened, sustainability reporting seeks to change public perception without changing its operations, and companies can distract the public from the main issue by highlighting other issues that are more positive or emotional. Lindblom (1994) explained that the strategy is to distort the problem that is considered to come from the wrong perception of the public, so that what is fixed is the narrative, not the action.

The disclosure of sustainability so far has tried to maintain social acceptance, so that greenwashing also functions as a mechanism of legitimacy strategy in the face of social pressure, where the sustainability of the company's existence depends on the extent to which the community accepts and gives legitimacy to its activities. The greenwashing practices found in the four companies are a tangible manifestation of how disclosure is used to maintain public support even though it does not fully reflect operational reality.

This section presents a cross-case analysis to compare the patterns, strategies, and intensity of greenwashing potential in four cement companies in Indonesia, namely PT Semen A, PT Semen B, PT Semen C, and PT Semen D. have similar greenwashing patterns in terms of strategies used to build the company's sustainability image in the community by disclosing through narratives that are contrary to the The True Reality.

All companies, after being analyzed, not only adopted one strategy in *greenwashing,* but also collaborated with other strategies. To facilitate the reader's understanding, a table is presented that is expected to be able to provide an overview of the different strategies adopted by the four cement industry companies in Indonesia:

Table 1. Cross Case Study

No.	Company	Greenwashing Strategy	Strategy Explanation
1	PT Semen A	Decoupling, selective disclosure, & attention deflection	States that the supply chain does not have environmental impact. Production data and raw material supplies obtained by the company are results of karst extraction and data that helps build narration of the company, which more highlights the company's activity aspects. Neglects demand for work accidents caused by MCU (Medical Check Up), external assurance

			involvement, and does not eliminate greenwashing potential.
2	PT Semen B	Selective disclosure, decoupling, attention deflection, claim greenwashing & level of greenwashing	Claims commitment to HAM, K3, and environment, but operational practices show hazardous working conditions and significant environmental impact. Then states there are no demands alleging the company while there are demands from Pari Island community regarding climate damage that has been won in court. In reality, assurance does not cover material issues such as work conditions including exposure to coal dust. Zero major findings appear to conflict with video evidence and workers' testimony showing hazardous conditions and health disruptions. Narration continues company-level greenwashing, which is framing green image at corporate level.
3	PT Semen C	Selective disclosure, decouping, claim greenwashing, attention deflection & firm level	Narration of small activities such as routine road watering to reduce dust and create more comfortable environment for the community, narration that the company maintains relations in creating positive relationships. However, reality shows social conflict, citizen protests, and intense complaints about blasting, dust, foreign workers. Then the company mentions there is no waste disposal, whereas in reality there is waste disposal, data inconsistency related to work accidents claims. Absence of external assurance, so there is no independent verification. Symbolic framing at corporate level to maintain public legitimacy.
4	PT Semen D	Decoupling & claim greenwashing	Corruption case deletion in sustainability report, PT Semen D emphasizes integrity, anti-corruption, and compliance as company identity, while facts show there are no deviations from governance deviation narration. Claims stating it is not accurate or conflicting with external reality, "no violation of disobedience" whereas corruption of 2.6 billion committed by company officials has been proven wrong and violated court decision.

Source : Processed Researcher (2025)

The most dominant similarity that emerged in each case was the strategy of decoupling and selective disclosure, which is the tendency to highlight positive narratives and eliminate material issues that have the potential to damage the company's image. All four companies consistently presented their commitment to the environment, regulatory compliance, and operational achievements, but did not adequately disclose important issues reported by the media such as social conflicts, environmental pollution, work accidents, or governance violations. The entire company shows a form of decoupling phenomenon, which is the mismatch between symbolic claims and operational practices. PT Semen A presents a narrative of conservation and occupational safety, but the facts show karst damage. PT Semen B stated its commitment to human rights and K3, but the media showed exposure to extreme dust and respiratory diseases of workers. PT Semen C claimed that there was no waste spill but received various social protests and coastal complaints from the community. PT Semen D emphasizes anti-corruption integrity, but does not acknowledge the internal corruption scandals that have been publicly exposed. This decoupling phenomenon is consistent throughout the company, showing the difference between corporate talk and corporate action.

Second, selective disclosure, which highlights positive information while eliminating material issues that have the potential to harm the company's image. At PT Semen A, the issues of Kendeng karst damage, factory explosions, and worker conflicts were not shown in the sustainability report. Also, PT Semen B did not disclose the lawsuit against Pari Island's climate and dangerous working conditions. PT Semen C eliminated significant issues such as marine pollution, unilateral layoffs, and the impact of blasting on the community. PT Semen D even deleted all information about corruption cases in its subsidiaries, even though it already had a legal verdict. This pattern shows that selective disclosure is the most common strategy universally used by all cement companies in an effort to build public legitimacy.

Third, all companies practice attention deflection, which is distracting the reader's attention by highlighting symbolic programs such as energy efficiency, the use of electric vehicles, energy-saving education, or CSR activities that are not directly related to the main impact of the company's operations. This pattern is very clear in PT Semen A and PT Semen B which highlight assurance and internal audit, and in PT Semen C and PT Semen D which display routine narratives such as health programs, internal training, or small-scale energy management. This scheme suppresses the possibility of readers paying attention to material issues such as ecological damage, community complaints, or occupational safety violations.

Fourth, all companies show a form of greenwashing claims, either through unverifiable sustainability claims or contradictory claims to media data or findings. PT Semen C was the most extreme example with a "zero fatality" claim at the beginning of the report, while the latter reported one death. PT Semen A and PT Semen B claim the suppliers or operations have no negative impact on the environment, while the facts show their operations have entered into environmental and climate litigation cases. PT Semen D claimed that there were no violations of the law throughout the year, but eliminated the corruption cases that had been sentenced.

Fifth, all companies carry out firm-level greenwashing. None of the companies claim to be "eco-friendly" or "low-carbon cement" products in a measurable way; The entire sustainability strategy is focused on the corporate level through generic narratives such as environmental commitment, good governance, energy efficiency, and emission reduction. This is in line with the literature that states that carbon-intensive industries such as cement use more reputable strategies at the company level because it is difficult to reduce product emissions substantively. Thus, the five indicators of greenwashing used in this study selective disclosure, decoupling, attention deflection, claim greenwashing, and firm-level greenwashing were found to occur across companies, although variations in intensity and focus were different.

Then the differences found in the research of the cement industry in Indonesia. Although there are similar general patterns, each company exhibits a different greenwashing strategy according to external pressures, organizational structure, and operational conditions. PT Semen A and PT Semen B both use external assurance, but the findings of the study show that the presence of assurance does not reduce the potential for greenwashing. In PT Semen A and PT Semen B, assurance is actually used as a tool of symbolic assurance to strengthen the image of accountability without explaining crucial matters to material issues such as the Kendeng karst, factory explosions, or dangerous working conditions. This difference is in contrast to PT Semen C and PT Semen D who do not use external assurance at all, so their reports stand entirely on internal narratives. However, the absence of assurance at PT Semen C makes the potential for greenwashing very strong and PT Semen D is actually more transparent in reporting its business operational activities.

In comparison, PT Semen C is the company with the highest intensity of social and environmental conflicts in media data in 2024. Media spotlight on Bayah sea pollution, unilateral layoffs, the dominance of foreign workers, cracks in houses due to blasting, and fishermen's protests show a much greater level of public pressure than other companies. This situation makes the potential for selective disclosure and decoupling at PT Semen C appear the strongest, including internal inconsistencies regarding fatality data or death accidents compared to the other three companies.

PT. Semen B and PT Semen A, as the two largest companies in the cement industry in Indonesia, show a more structured and systematic pattern of greenwashing. They highlight extensive corporate sustainability policies, audits, certifications, and management procedures, so their greenwashing strategy is more refined and managerial. This strategy is in line with the literature on large corporations using symbolic sustainability to maintain legitimacy under intense public scrutiny.

When compared to the three, PT Semen D is in a unique position. The company has the lowest level of media spotlight and does not face large-scale social conflicts. However, the company still showed significant selective disclosure, especially through the total elimination of corruption cases. However, PT Semen D showed a better level of transparency than the other three companies regarding the disclosure of operational processes, in particular the explanation of blasting and the recognition of negative operational impacts described in the sustainability report, where the other three companies did not touch on this and the operational risks such as noise, dust, and vibration that were disclosed as the impact of the operations that were in contact with the surrounding community. The explicit disclosure of blasting makes PT Semen D the only company to publicly acknowledge the core operational risks of the cement industry. This provides a positive differentiation compared to other companies that avoid discussing this issue.

Thus, although all companies show the potential for greenwashing, the intensity, focus, and characteristics of the strategies used show variations: PT Semen C is the strongest in eliminating material issues, PT Semen A and PT Semen B are the strongest in symbolic assurance, while PT Semen D has the potential to conduct electivedisclosure but is the most transparent regarding mine operations.

Cross-case analysis shows that greenwashing strategies are influenced by the level of pressure on legitimacy, companies are bound by social contracts with society. PT Semen B and PT Semen A, as large companies with national and international coverage, face greater pressure from regulators, the media, and the public, so they chose a highly structured reporting strategy and leveraged assurance. PT Semen C faced direct social pressure from the community around the mine so it used a total issue elimination strategy to minimize reputational risks. Meanwhile, PT Semen D faces lower pressure so that its reporting is more procedural, but still conducts selective disclosure on governance issues.

This pattern is in line with the theory of legitimacy where there is a high threat to the legitimacy of the organization, causing reporting to be used only as a symbolic strategy to maintain an image of sustainability. In this context, Deegan (2002) greenwashing is not only a communication strategy, but also as a bad practice or loophole for organizations against the pressures of the institutional environment.

Overall, the cross-case analysis showed that the four cement companies in Indonesia displayed a consistent pattern of greenwashing on the five dimensions of the indicators analyzed, albeit with different intensities and approaches. Similar patterns can be seen in selective disclosure, decoupling, attention deflection, claim greenwashing, and firm-level greenwashing. However, the difference lies in the existence of assurance, the level of social and environmental conflicts, and the level of operational transparency. These findings show that sustainability reporting in the cement industry is still predominantly used as a symbolic legitimacy tool, thus supporting the literature findings on the use of sustainability reporting as a greenwashing practice in industries with high ecological impact.

Research Implications

Based on the expectation that research findings contribute to human life, this study offers significant theoretical and practical contributions. Theoretically, it demonstrates how legitimacy theory helps conceptualize corporate actions that obscure environmentally damaging operations, thereby explaining the practice of greenwashing. The theory clarifies that companies are bound by a social contract and use disclosure strategies, such as sustainability reporting, to maintain public acceptance and a positive image. When legitimacy is threatened, companies may employ tactics—as outlined by Lindblom (1994)—to divert public attention or reshape narratives, aligning their image with social norms without substantive operational change. This is evidenced in the case of Indonesian cement companies, which, facing negative scrutiny, use sustainability reports to craft a positive narrative while concealing actual operational realities, thereby managing perceived legitimacy.

Practically, this research provides crucial implications for companies, especially in high-extraction industries, urging more transparent and responsible management of operational impacts and sustainability reporting. It reveals that greenwashing in sectors like cement often stems from a focus on positive imagery over comprehensive disclosure. Therefore, sustainability efforts must move beyond narrative and be realized through concrete, centralized impact management and transparent reporting. Only when companies take genuine steps to address real conditions can sustainability reporting become a tool for transformation, not merely imaging.

To achieve this, companies must first significantly enhance the quality of their on-the-ground environmental and social impact management. The study identifies a stark gap between sustainability narratives and operational reality regarding issues like karst extraction, emissions, and community relations. Moving beyond routine administrative programs, companies need robust mechanisms for identifying material issues, assessing risks, and implementing evidence-based mitigation that delivers tangible, not just symbolic, results. Second, sustainability reports must be compiled with greater transparency, reflecting actual field conditions. To avoid greenwashing, companies should abandon selective disclosure and instead honestly report challenges, failures, and conflicts—such as work accidents or community grievances—alongside achievements. This honest transparency will bolster report credibility and foster healthier relationships with the public and regulators.

Research Limitations

This research only uses secondary data sources in the form of company sustainability reports, assurance statements, and mass media reports. The absence of primary data such as the results of interviews with affected communities causes the exploration process to be descriptive and interpretive based on available documents. As a result, the understanding of internal motivations and the process of preparing sustainability reports cannot be explored in depth. So that the depth of assessment of the independence and substance of assurance is limited.

This assessment is also limited to the researcher's ability to analyze or interpret the narrative of the report and compare it with media sources. This makes the findings exploratory and can be viewed from various perspectives. A social phenomenon can be studied using various analytical approaches that are appropriate in accordance with the paradigm used to understand the social reality being studied. The analytical approach adopted in this study is certainly not the only approach that can be used to study a social phenomenon.

CONCLUSION

This study employed a multiple case study approach to examine greenwashing potential in the sustainability reports of four Indonesian cement companies (PT Semen A, B, C, and D), using five indicators—selective disclosure, decoupling, attention deflection, claim greenwashing, and levels of greenwashing—while comparing narratives against media coverage through legitimacy theory. Findings revealed greenwashing tendencies across all firms, primarily via decoupling and selective disclosure (e.g., highlighting positive achievements while omitting media-reported issues like pollution, social conflicts, karst damage, and accidents), attention deflection through minor CSR programs, unsupported claims (e.g., "zero fatality" or "harmonious relationships"), and firm-level rather than product-level practices; assurance provided limited legitimacy rather than accountability, with PT Semen D showing relatively better transparency on mining but still selective on governance. Overall, sustainability reporting served symbolic legitimacy maintenance over genuine accountability, underscoring gaps between narratives and impacts. For future research, longitudinal analyses could track how evolving regulations (e.g., enhanced UUPK enforcement) and stakeholder pressure influence greenwashing reduction in Indonesia's high-emission sectors.

REFERENCES

Abidoye, R. B. (2017). *Towards property valuation accuracy: A comparison of hedonic pricing model and artificial neural network*.

Agustina, D. (2022). *Sustainability: Konsep dan pelaporan*. Airlangga University Press.

Ahman Karim, A. R. (2023, April 10). Eksternalisasi industri semen Gresik Rembang terhadap kondisi sosial, ekonomi, dan lingkungan. *Kompasiana*.

CNN. (2024, February 20). Ledakan di PT Semen Padang, 4 korban luka bakar dibawa ke rumah sakit.

Fernandez, V. (2025). Corporate greenwashing and green management indicators. *Environmental and Sustainability Indicators, 26*, 100599. https://doi.org/10.1016/j.indic.2025.100599

Kwarto, F., Nurafiah, N., Suharman, H., & Dahlan, M. (2024). The potential bias for sustainability reporting of global upstream oil and gas companies: A systematic literature review of the evidence. *Management Review Quarterly, 74*, 35–64. https://doi.org/10.1007/s11301-022-00292-7

Machado, B. A. A., Dias, L. C. P., & Fonseca, A. (2021). Transparency of materiality analysis in GRI-based sustainability reports. *Corporate Social Responsibility and Environmental Management, 28*(2), 570–580. https://doi.org/10.1002/csr.2066

Meutia, I. (2022). *Perkembangan sustainability report di Indonesia: Pendekatan systematic literature review*. CV. Dapur Kata Kita.

Nisa, K., & Sisdianto, E. (2025). Greenwashing dalam perspektif akuntansi lingkungan: Studi kualitatif terhadap praktik pelaporan keberlanjutan perusahaan. *Jurnal Ilmiah Ekonomi Bisnis dan Akuntansi (JEMBA), 2*(1).

Pertiwi, M., & Qonita, H. (2025). Kerangka Sustainable Development Goals dan risiko praktik greenwashing: Studi kasus ZARA–Inditex. *Agrimics Journal, 2*(1), 121–135. https://doi.org/10.64118/aj.v2i1.55

Ruiz-Blanco, S., Romero, S., & Fernandez-Feijoo, B. (2022). Green, blue or black, but washing—What company characteristics determine greenwashing? *Environment, Development and Sustainability, 24*(3), 4024–4045. https://doi.org/10.1007/s10668-021-01602-x

Siladjaja, M., Nugrahanti, P. T., & Madgalena, P. (2023). *Teori akuntansi positif* (M. Jumiati, Ed.; 1st ed.). CV. Mega Press Nusantara.

Sneideriene, A., & Legenzova, R. (2025). Greenwashing prevention in environmental, social, and governance (ESG) disclosures: A bibliometric analysis. *Research in International Business and Finance, 74*. https://doi.org/10.1016/j.ribaf.2024.102720

Sukoharsono, G. E., & Andayani, W. (2021). *Akuntansi keberlanjutan*. Universitas Brawijaya Press.

Sulasmi, S., & Hasanbasri, M. (2022). Identifikasi dampak industri semen yang merugikan masyarakat. *Pemakalah Paralel Seminar Nasional Pendidikan Biologi dan Saintek (SNPBS), 8*, 280–289.

Van Noorloos, F., Cirolia, L. R., Friendly, A., Jukur, S., Schramm, S., Steel, G., & Valenzuela, L. (2020). Incremental housing as a node for intersecting flows of city-making: Rethinking the housing shortage in the global South. *Environment and Urbanization, 32*(1), 37–54.

Venter, C., Mahendra, A., & Hidalgo, D. (2019). *From mobility to access for all: Expanding urban* *transportation choices in the global South*. World Resources Institute.

Wei, Q., & Zhang, Y. (2024). Vertical expansion in the making: Planning against deindustrialization by promoting "Industry's Going Upstairs" in Shenzhen. *Environment and Planning A: Economy and Space, 56*(5), 1447–1461.

Yin, R. K. (2018). *Case study research and applications* (6th ed.). Sage Publications.

Zikayah, H., Nugroho, T. A., & Susilo, B. (2023). *Study of environmental damage caused by the activities of the Semen Tuban Factory on the conditions of the community and the surrounding environment*. http://etd.repository.ugm.ac.id/