MINING COMPANIES AND CORPORATE SOCIAL RESPONSIBILITY: LITERATURE REVIEW TO FIND FUTURE RECOMMENDATIONS

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Abstract: *This study explores how mining companies can balance profitability with environmental sustainability and social responsibility to promote long-term economic growth and social stability. This study uses a literature review to examine the impact of mining operations on the environment and local communities, as well as the benefits of sustainable practices and community development initiatives. The results show that mining companies can create win-win situations by implementing sustainable practices, investing in community development, and building strong relationships with stakeholders. The study recommends that mining companies continue to prioritize environmental sustainability and social responsibility, as these efforts not only benefit the regions in which they operate but also increase funding opportunities and support for mutually beneficial projects*

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Mining companies have a significant role in regional development but often prioritize profit over environmental conservation[1]. Their operations can have long-lasting negative impacts on the environment and local communities[2]. To minimize their negative impact and enhance local well-being[3], companies should prioritize environmental sustainability and social responsibility[4]. Implementing sustainable practices and investing in community

[1] Bruno Santos Pimentel, Ernesto Santibañez Gonzalez, and Geraldo N.O. Barbosa, "Decision-Support Models for Sustainable Mining Networks: Fundamentals and Challenges," *Journal of Cleaner Production* (Elsevier Ltd, 2016), https://doi.org/10.1016/j.jclepro.2015.09.023.
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development initiatives can create a sustainable future for both them and their regions[5].

Mining companies can contribute to long-term economic growth and social stability by prioritizing sustainable practices and community development[6]. This approach benefits the environment and local communities[7], builds stronger stakeholder relationships[8], and enhances industry reputation[9]. By demonstrating commitment to sustainability, companies attract investors[10], leading to increased funding opportunities[11] and support for projects benefiting both companies and communities[12]. This creates a win-win situation for all involved[13].

Mining companies can prioritize environmental sustainability by implementing responsible practices like reclamation and rehabilitation of sites[14], minimizing their environmental footprint[15], and investing in renewable energy sources[16]. They can protect ecosystems and wildlife habitats[17], reduce water and energy consumption[18], and support

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local communities through job creation, education, and infrastructure development[19]. This not only benefits the communities but also fosters trust and positive relationships between the company and local stakeholders[20]. By integrating environmental sustainability and social responsibility into their operations, mining companies can contribute to a more sustainable future[21].

The research highlights the significant role of East Kalimantan mining companies in the Indonesian economy, contributing to GDP and foreign exchange earnings[22]. However, challenges include environmental and social impacts, necessitating a comprehensive sustainability approach. Further research can help identify sustainable solutions[23].

Considering the reasons mentioned above, this paper aims to find and examine research on the topic of discussing mining companies and corporate social responsibility by interpreting and connecting the two topics to become a topic of discussion. Articles published and indexed by Google Scholar (GS) are analyzed and categorized based on author, year of publication, research objectives, research results, and findings. This analysis can see what research topics are the subject of more publications related to "mining companies" and "corporate social responsibility" to be interpreted as alternative recommendations in the future. To guide the framework of this literature review, the following research questions will be explored: (1) What topics are covered in research on mining companies? (2) What topics are discussed in research on corporate social responsibility? (3) What meaning can be obtained from the two previous research questions to provide future recommendations?

THEORETICAL BACKGROUND

The concept of Corporate Social Responsibility (CSR) has evolved significantly over time, reflecting changes in societal values and expectations[24]. In the early 20th century, businesses primarily focused on maximizing profits and shareholder wealth without much consideration for their social and environmental impact[25]. However, as concerns about

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sustainability and ethical business practices grew in the latter half of the century[26], the concept of CSR began to take shape as a way for companies to balance their economic interests with their responsibilities to society and the environment[27]. Today, CSR has become a crucial aspect of business operations[28], with companies increasingly being held accountable for their impact on society and the environment[29]. Many organizations now incorporate CSR into their core values and mission statements[30], recognizing that being socially and environmentally responsible is not only good for the planet and communities but also their long-term success and reputation[31]. As the world continues to face pressing social and environmental challenges, the importance of CSR in business practices is only expected to grow[32].

Academic research on CSR has played a crucial role in shaping our understanding of its importance and implications for businesses and society[33]. Scholars have examined the impact of CSR on corporate financial performance, stakeholder relationships, and employee engagement, among other areas[34]. International policies and agreements, such as the United Nations Global Compact and the Sustainable Development Goals, have also influenced how companies approach CSR and sustainability[35]. Additionally, significant social and political events, such as the rise of social media activism and the increasing focus on climate change, have pushed companies to take more proactive measures in addressing societal and environmental issues[36]. As a result, companies are increasingly integrating CSR into their core business strategies, rather than treating it as a separate initiative[37]. This shift towards

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incorporating sustainability practices has led to a greater emphasis on transparency, accountability, and ethical behavior within organizations[38]. By aligning their values with those of their stakeholders and the broader society[39], companies can not only improve their reputation and brand loyalty but also contribute to a more sustainable and equitable future for all[40].

RESEARCH METHODS

The idea mapping approaches that emphasise the boundaries of knowledge or the methodical, clear[41], and repeatable procedures form the foundation of this bibliometric literature review[42].

Define Keywords for earch.

In the last ten years, a literature search was carried out using the article title "mining companies" as well as the keywords "mining companies" and "CSR". Publish or Perish (PoP) was chosen because it was proven to be the most efficient method for searching articles in Google Scholar (GS)[43], while GS was chosen because it is currently the largest database[44].

Initial search results

The year '2015-2024' and PoP were used in the 'keyword' column search for this article. The findings are available in spreadsheet (XLSX) format and include all pertinent article data [45], including the name of the author, the paper's title, the publication year, and the total

Journal of Cleaner Production 56 (October 1, 2013): 7–17, https://doi.org/10.1016/j.jclepro.2011.10.034.

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[45] Quan Hoang Vuong et al., "Data Descriptor: An Open Database of Productivity in Vietnam's Social Sciences and

number of citations.

Search results improvements.

Related articles that are indexed in the GS database are then filtered once the data has been stored in XLSX format[46]. Only certain categories of journal articles meet the standards for ranking in the top ten for number of citations. Authors, paper titles, year of publication, research objectives, research locations, findings, and research results were tabulated based on the 10 articles.

Content analysis

Content analysis is a research method for quantifying and objectively characterising certain delivered information[47]. The approach is a helpful technical tool for working through a sample of documents in a methodical manner [48]. Text content may be statistically examined using content analysis, which condenses words into a smaller number of content-related categories [49].

RESULTS AND DISCUSSION

Based on search results from PoP software, research findings are displayed and analyzed using the spreadsheet application function. Data from 10 selected papers were visualized using a spreadsheet program. Apart from that, table data is also used for descriptive interpretation. The interesting thing about the search results using PoP is that only 9 titles were found that matched the search criteria, as seen in the following image.

Humanities for Public Use," *Scientific Data* 5 (September 25, 2018), https://doi.org/10.1038/sdata.2018.188.
[46] Vuong et al.
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[49] Vladimer B. Kobayashi et al., "Text Mining in Organizational Research," *Organizational Research Methods* 21, no. 3 (July 1, 2018): 733–65, https://doi.org/10.1177/1094428117722619; Satu Elo and Helvi Kyngäs, "The Qualitative Content Analysis Process," *Journal of Advanced Nursing* 62, no. 1 (April 2008): 107–15, https://doi.org/10.1111/j.1365-2648.2007.04569.x.

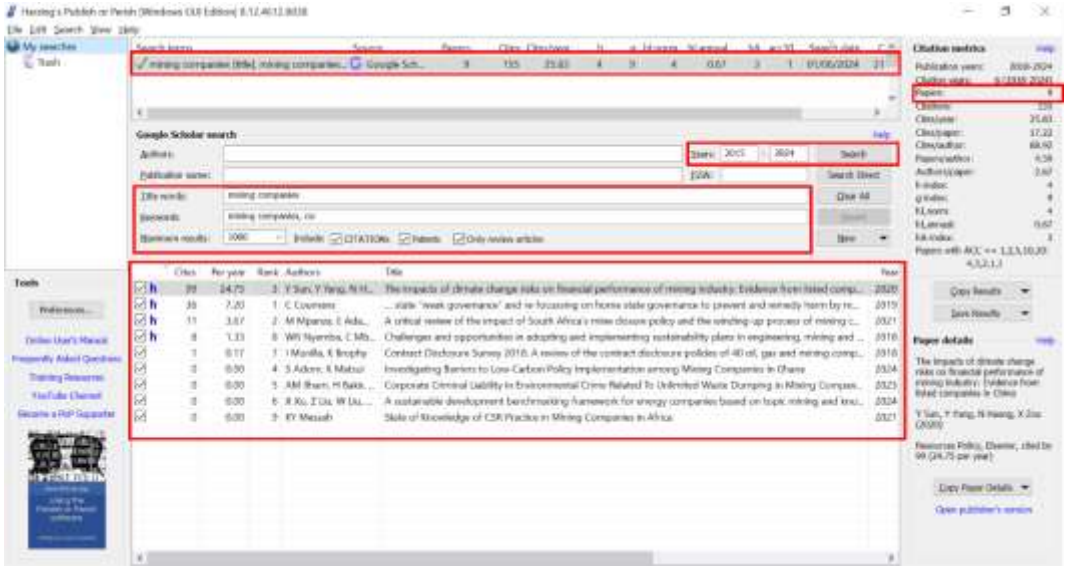

Figure 1. PoP search result

From the search results, there are 9 articles data generated by the PoP application. Furthermore, after the articles were grouped based on criteria, 6 articles were filtered for content analysis as shown in Table 1-3.

Table 1 Metric of PoP result

Metric data	Initial search
Keyword	mining companies, CSR
Publication year	2015 - 2024
Papers	9
Citations	155

Table 2 Metric of PoP sorted result

Metric data	Initial search
Keyword	mining companies, CSR
Publication year	2015 - 2024
Papers	6
Citations	118

Table 3 Articles

No	Author	Research purposes	Objects and locations	Findings and results
1.	Yongping Sun, Ying Yang, Nan Huang, Xin Zou (2020)	The study investigates the influence of climate change risks on corporate financial performance and the impact of these risks on China's mineral listed companies.	The study focuses on listed mining companies in China and employs unique data, including a climate risk indicator with 5 types of climate risks.	The study suggests that mining companies should adopt low-carbon strategies and disclose emission information to mitigate climate change risks, improving brand value and competitive advantages for long-term development.
2.	Mbalenhle Mpanza, Elhadi Adam, Raeesa Moolla (2021)	The study examines South Africa's legal frameworks regarding mine closure, winding-up of gold mining companies, and their environmental and community impacts.	The Aurora Empowerment System, Blyvooruitzicht Gold Mining Company, and Mintails Mining South Africa Pty Ltd. are three prominent gold mining companies in South Africa.	Unscheduled mine closures in South Africa cause environmental degradation and socio-economic impacts on communities. Companies evade closure obligations, leading to poor rehabilitation and distress. Models from Australia and Canada are suggested for enforcement and immediate rehabilitation.
3.	Catherine Coumans (2019)	The study investigates norm-setting processes in developing countries that prioritize weak governance, leading to policy delays and hindering progress	The paper explores the effects of industrial mining on local and national levels, focusing on the strategic use of "host country weak governance" by	The paper suggests that weak governance in mining undermines environmental impacts, overlooks unremedied harm, and diverts policy and funds from mandatory

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No	Author	Research purposes	Objects and locations	Findings and results
		on measures to prevent global mining harm.	mining companies and home countries.	accountability measures.
4.	Seth Adom and Kenichi Matsui (2024)	To explore the challenges faced by mining companies in Ghana in implementing low-carbon emission policies.	Four large-scale gold mining companies located in the southern part of Ghana, known as the "gold belt."	The study reveals barriers to low-carbon technology adoption include high costs, insufficient government policies, technical expertise, communication gaps, and concerns about energy supply.
5.	A. Muh. Ilham, Herman Bakir, Azis Budianto (2023)	The study aims to examine corporate criminal liability in environmental crimes, specifically waste dumping without a permit and B3 waste management, and its implementation against corporations.	The research focuses on PT. Indominco Mandiri, a mining company located in East Kalimantan, Indonesia	The study highlights corporate criminal liability in environmental crimes, emphasizing the importance of environmental permits and their consequences, particularly in the case of PT. Indominco Mandiri's waste dumping.
6.	X Xu, Z Liu, W Liu, C Pei, X Wu, Z Nie (2024)	The research aims to enhance sustainable development benchmarking management by creating an objective index system and analyzing mechanistic relationships among indexes using topic	The research was conducted on 50 oil and gas companies. The specific location is not mentioned in the provided text.	The study proposes a systematic, scientifically-based sustainable development program that enhances benchmarking management, aligns with the UN Sustainable Development Goals,

No	Author	Research purposes	Objects and locations	Findings and results
		mining and relation extraction techniques.		and enhances company's sustainable development capabilities, contributing to the realization of these goals.

Discussion of topics in research

The study by Yongping Sun[50] is a significant contribution to understanding how climate risks affect the financial performance of mineral companies in China. It highlights the importance of adopting low-carbon strategies and improving emission disclosures to mitigate these risks. The research suggests that companies that proactively manage and report their emissions may not only reduce their environmental impact but also enhance their financial sustainability in a market increasingly sensitive to climate change issues.

The research conducted by Mbalenhle Mpanza[51] provides a critical examination of South Africa's mine closure policies, highlighting the environmental and social repercussions of unscheduled mine closures. Their study underscores the need for more stringent enforcement of legal frameworks and the development of robust rehabilitation models to mitigate these impacts. The team's work suggests that adopting practices from countries like Australia and Canada could improve compliance and proactive measures in South Africa, including the establishment of funds for immediate rehabilitation to support communities affected by sudden mine closures.

Catherine Coumans'[52] delves into the complexities of norm-setting in countries with weak governance structures, particularly in the context of global mining operations. Her investigation sheds light on the significant policy delays that can occur, and the subsequent

[50] Yongping Sun et al., "The Impacts of Climate Change Risks on Financial Performance of Mining Industry: Evidence from Listed Companies in China," *Resources Policy* 69 (December 1, 2020), https://doi.org/10.1016/j.resourpol.2020.101828.
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[52] Catherine Coumans, "Minding the 'Governance Gaps': Re-Thinking Conceptualizations of Host State 'Weak Governance' and Re-Focussing on Home State Governance to Prevent and Remedy Harm by Multinational Mining Companies and Their Subsidiaries," *Extractive Industries and Society* (Elsevier Ltd, July 1, 2019), https://doi.org/10.1016/j.exis.2019.06.003.

challenges in preventing harm from mining activities. This work contributes to a broader understanding of the intricate dynamics between governance, policy-making, and corporate responsibility in the global mining sector. Coumans' findings underscore the need for robust governance frameworks to ensure that mining practices do not adversely affect communities and environments.

The study by Seth Adom[53] provides a comprehensive analysis of the obstacles Ghanaian mining companies face in adopting low-carbon emission policies. Their research, published in the journal Sustainability, highlights the economic and technological challenges that impede the shift towards more sustainable practices. The findings underscore the need for government support, investment in low-carbon technologies, and training for workers to handle new systems, emphasizing the complex interplay between policy, industry readiness, and the broader goal of environmental sustainability.

Meaning for future recommendations

The research on mining companies highlights a critical intersection of industry operations and their broader social and environmental footprints. It underscores the importance of sustainable practices that not only ensure the longevity of the mining operations but also safeguard the well-being of the communities and ecosystems they affect. Effective governance and robust policies are essential to balance economic interests with the imperative to minimize environmental degradation and foster social responsibility. By promoting transparency and accountability, mining companies can build trust with stakeholders and demonstrate their commitment to ethical practices. This can help mitigate conflicts with local communities and regulatory bodies, ultimately leading to more sustainable and mutually beneficial partnerships. In the long run, prioritizing sustainability and social responsibility can not only enhance the reputation and profitability of mining companies but also contribute to the overall well-being of society and the environment.

Some suggestions for further research regarding climate change risks, mine closure policies, norm-setting processes, challenges in adopting low-carbon technologies, corporate criminal liability and environmental compliance, as well as benchmarking systems and sustainable development indices. These areas can help address pressing challenges related to mining practices and contribute valuable insights in this area. This research should analyze the long-term impact of implementing low-carbon strategies on the financial performance of mining companies, examine the role of climate risk disclosure in influencing investor decisions, and explore the socio-economic consequences of poor mine closure practices. It is

[53] Seth Adom and Kenichi Matsui, "Investigating Barriers to Low-Carbon Policy Implementation among Mining Companies in Ghana," Sustainability (Switzerland) (Multidisciplinary Digital Publishing Institute (MDPI), March 1, 2024), https://doi.org/10.3390/su16051798.

also recommended to investigate the role of international norms and standards in shaping mining policy and explore innovative financing mechanisms to incentivize mining companies to adopt sustainable practices.

CONCLUSION

The importance of sustainable practices in mining companies was emphasized to ensure longevity and protect communities and ecosystems. Effective governance and policies balance economic interests and environmental degradation. Encouraging transparency and accountability will build trust, reduce conflict, and encourage sustainable partnerships. Prioritizing sustainability will improve the reputation of mining companies and contribute to society and the environment.

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