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Financial Performance Mediates the Effect of Sustainability Reporting on Firm Value

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Abstract

This study analyzes the effect of economic, environmental, and social aspects of sustainability reporting on firm value, with financial performance as a mediating variable. A sample of 20 companies from the basic materials and energy sectors listed on the Indonesia Stock Exchange from 2018 to 2022 was analyzed. Multiple linear regression was used to estimate the relationships among the variables, complemented by Sobel tests, to examine the intervening variable's mediating role and address the research gap. The findings reveal that environmental and social aspects positively and significantly impact a firm's financial performance, unlike the economic aspect. Interestingly, the economic aspect negatively influences firm value, while the environmental aspect demonstrates a significantly positive effect, and the social aspect has no effect. Financial performance has a positive influence on firm value. Furthermore, the study finds that financial performance mediates the relationship between environmental and social aspects of sustainability reporting and firm value, not economic. These results highlight the crucial role of sustainability reporting in enhancing financial performance and ultimately creating long-term value for firms, particularly its environmental and social dimensions. The study emphasizes the need for companies to prioritize these aspects when crafting their sustainability reports to attract investors and achieve sustainable growth.

Keywords: Financial Performance, Firm Value, Sustainability Report, Sustainability Reporting

Abstrak

Penelitian ini menganalisis pengaruh aspek ekonomi, lingkungan, dan sosial dari pelaporan keberlanjutan terhadap nilai perusahaan, dengan kinerja keuangan sebagai variabel mediasi. Sebanyak 20 perusahaan dari sektor bahan baku dan energi yang terdaftar di Bursa Efek Indonesia tahun 2018 hingga 2022 dipilih sebagai sampel. Penelitian ini menggunakan regresi linier berganda untuk mengetahui hubungan antar variabel, dilengkapi dengan uji Sobel, untuk menguji peran mediasi variabel *intervening* dan mengatasi kesenjangan penelitian. Hasil penelitian menunjukkan bahwa aspek lingkungan dan sosial memiliki dampak positif dan signifikan terhadap kinerja keuangan perusahaan, tidak seperti aspek ekonomi. Menariknya, aspek ekonomi justru memiliki pengaruh negatif terhadap nilai perusahaan, sementara aspek lingkungan dan sosial menunjukkan pengaruh positif. Kinerja keuangan terbukti memiliki pengaruh positif terhadap nilai perusahaan. Lebih lanjut, penelitian ini menemukan bahwa kinerja keuangan memediasi hubungan antara aspek lingkungan dan sosial dari pelaporan keberlanjutan dengan nilai perusahaan, tetapi tidak untuk aspek ekonomi. Temuan ini menyoroti peran penting pelaporan keberlanjutan dalam meningkatkan kinerja keuangan dan pada akhirnya menciptakan nilai jangka panjang bagi perusahaan, terutama dimensi lingkungan dan sosialnya. Penelitian ini menekankan pentingnya perusahaan untuk memprioritaskan aspek-aspek tersebut ketika menyusun laporan keberlanjutan mereka untuk menarik investor dan mencapai pertumbuhan yang berkelanjutan.

Kata kunci: Kinerja Keuangan, Laporan Keberlanjutan, Nilai Perusahaan, Pelaporan Keberlanjutan

1. INTRODUCTION

To operate sustainably, today's businesses face mounting pressure from various stakeholders – investors, customers, regulators, and the general public. Sustainability refers to a company's practices that consider environmental, social, and governance (ESG) factors. (Espahbodi et al., 2019). The factors significantly influence a company's long-term viability and impact on society. Disclosing a company's ESG performance (environmental, economic, and social) strengthens both the sustainability of the business and its overall (Ahmad et al., 2024). In Indonesia, regulations like the Financial Services Authority Regulation Number 51/POJK.03/2017 mandate companies to publish sustainability reports. This growing emphasis on sustainability has led to a surge in adopting sustainability reporting practices (Das and Mishra, 2020).

Sustainability reporting, encompassing economic, environmental, and social performance, allows companies to measure, manage, and publicly disclose their sustainability efforts (Das and Mishra, 2020). However, challenges remain. A focus on compliance over materiality and stakeholder engagement can hinder reporting effectiveness (Das and Mishra, 2020). Additionally, companies face a critical challenge – their role as potential primary contributors to climate change. Addressing this global environmental issue requires international cooperation and scientific consensus to reduce carbon emissions and energy consumption (Hasna, 2010).

Numerous studies have explored the potential link between sustainability reporting and financial performance, with most suggesting a positive correlation (Alshehhi et al., 2018; Roffé and González, 2024). However, the specifics of this relationship remain complex and multifaceted, influenced by factors like chosen metrics, sample composition, and period (Aggarwal, 2013). Despite this complexity, implementing sustainable practices improves financial performance and a competitive advantage (Roffé and González, 2024). Research consistently suggests that sustainability reporting can positively impact firm value through improved financial performance (Gómez-Bezares et al., 2017; Munir and Khurram, 2020). For instance, Munir and Khurram (2020) found that corporate sustainability mediates the relationship between corporate governance and financial performance. Similarly, Gómez-Bezares et al. (2017) reported that firms integrating sustainability into their strategy demonstrated more robust financial performance and shareholder value creation. These findings suggest that financial performance acts as a mediator between sustainability reporting and firm value. Companies with robust sustainability practices may achieve improved financial performance, increasing firm value over time.

This study builds upon past research on the influence of economic, environmental, and social aspects of sustainability reporting on firm value. It proposes financial performance as an intervening variable. The study focuses on energy and raw materials companies listed on the Indonesia Stock Exchange between 2018 and 2022, analyzing their sustainability performance using GRI Standards. The study assesses the impact of sustainability reporting, which communicates a company's ESG efforts, on firm value, with financial performance acting as a mediator. The study assesses the impact of sustainability reporting, which communicates a company's ESG efforts, on firm value, with financial performance acting as a mediator. This research employs stakeholder theory by exploring how improvements in financial metrics (profitability, cost reduction, etc.) bridge sustainability reporting and firm value. This theory

posits that companies create sustainable value by considering diverse stakeholder interests, not just shareholders. Sustainability reporting demonstrates this commitment, fostering better stakeholder relations and improving financial performance. This study contributes to the ongoing debate on the financial implications of sustainability practices by offering insights into how sustainability reporting, mediated by financial performance, can benefit firm value.

This research enriches academic literature, laying the groundwork for further studies on the relationship between firm value and sustainability reporting, particularly those focusing on financial performance as a mediating variable. Additionally, it offers valuable insights for government action in areas such as updating sustainability reporting and CSR policies, regularly revising associated incentives and sanctions, developing standardized sustainability reporting at local, national, and global levels, and promoting public education campaigns to encourage investors and stakeholders to utilize sustainability information.

2. LITERATURE REVIEW AND HYPOTHESES FORMULATION

Stakeholder Theory

Freeman (2015) challenged traditional views of corporate stakeholders, broadening the definition to encompass "any group or individual who can influence or be influenced by the company's goals. This stakeholder approach emphasizes the importance of managing relationships with various parties impacting the company's success (Anggiyani and Yanto, 2017). Stakeholder theory provides a framework for considering stakeholders' diverse value perspectives and developing measurement methods (Harrison and Wicks, 2021). Companies that engage in transparent sustainability reporting demonstrating their commitment to social, environmental, and economic responsibility, cultivate a positive public image (Apriliyanti, 2018). This signifies their consideration of stakeholder interests beyond solely shareholder profits, ultimately contributing to long-term company value.

Firm size can influence access to financial resources. Larger companies may have greater leverage to attract investors, leading to higher share prices and increased shareholder value (Apriliyanti, 2018). Additionally, maintaining positive stakeholder relationships includes financial performance. Strong profitability indicates efficient asset management and strengthens stakeholder trust (Latifah and Luhur, 2017). Long-term investors often favor companies with high profitability and increasing leverage, as these metrics reflect sound business management and contribute to value creation.

According to Clarkson (1998), companies can improve environmental and social performance by identifying key stakeholders, including employees, customers, suppliers, government, and the broader community. Sustainability reporting allows companies to assess their impact on these stakeholders and make informed decisions considering stakeholder perspectives. Ultimately, fostering positive stakeholder relationships is a critical factor in enhancing company value. Companies can achieve a sustainable increase in value through transparent sustainability reporting, strong financial performance, and harmonious stakeholder relationships.

Legitimacy Theory

Suchman (1995) defines legitimacy as the perception that an organization's actions align with societal norms and expectations. It posits that companies strive to develop and implement

voluntary social and environmental disclosures (Schiopoiu Burlea and Popa, 2013). This disclosure fulfills their "social contract" and ensures recognition and survival in a dynamic environment. Stakeholder views of a company's activities are crucial, as companies operating outside accepted norms risk societal sanctions and potential failure (Schiopoiu Burlea and Popa, 2013).

Legitimacy is often secured through economic and social actions that demonstrate a company's commitment to the community and environment in which it operates. Bunker (2015) highlights how fostering community within the service environment can enhance customer loyalty and brand commitment. Furthermore, companies that contribute to society through voluntary activities and positive social impact initiatives can enhance their business reputation (Wolf, 2017). Companies that actively listen to and respond to stakeholder values and beliefs are more likely to prosper (Whetman, 2017). In environmentally sensitive sectors, sustainability reports are critical instruments for stakeholder accountability, with transparency and legitimacy central to their publication (Cunha and Moneva, 2018). Companies operating in high-risk environments disclose more sustainability information to legitimize their activities and maintain a positive image (Fahmi et al., 2022). Damayanthi (2019) emphasizes the importance of corporate social responsibility (CSR) disclosure for gaining public acceptance of a company's operations and performance. Ultimately, companies hope that achieving legitimacy will contribute to strategies for increasing company value.

Economic Aspects of Sustainability Reporting and Financial Performance

Stakeholder theory emphasizes building and managing relationships with various parties impacting the company's success. This collaborative approach involves developing, implementing, and measuring results with stakeholder input (Pedrini and Ferri, 2019). A core tenet of stakeholder theory is aligning stakeholder interests, where management focuses on value creation for all stakeholders (Freeman, 2015).

Sustainability reporting plays a crucial role in stakeholder communication. Through this process, companies explain their approach to managing economic, environmental, and social impacts, fostering stakeholder awareness of the value of sustainable practices (Bellantuono et al., 2016). Companies report sustainability for several reasons, including monitoring operational efficiency (Wan Ahmad et al., 2016), enhance internal and external transparency, and foster employee loyalty and positive stakeholder relationships (Daub, 2007). The economic dimension of sustainability reporting focuses on disclosing information about a company's financial performance and its impact on stakeholders (e.g., economic development, employment, etc.). Research suggests a positive relationship between corporate sustainability and financial performance (Alshehhi et al., 2018). Notably, Wieczorek-Kosmala et al. (2021) define sustainability reporting as a crucial driver of financial performance within the energy sector.

Multiple studies have explored the economic aspects of sustainability reporting and its association with financial performance (Carolina et al., 2020; Ebaid, 2023; Girón et al., 2021; Lestari and Irma, 2021). While some studies report a statistically significant positive association (Girón et al., 2021; Laskar, 2019), others find a positive, albeit non-significant relationship (Carolina et al., 2020; Lestari and Irma, 2021). This collective body of research

suggests a potential influence of the economic aspects of sustainability reporting on financial performance. Based on this review, the research hypothesis is:

H_1: Economic aspects of sustainability reporting have a positive influence on financial performance.

Environmental Aspects of Sustainability Reporting and Financial Performance

Accounting plays a crucial role in sustainable development by providing data on a company's environmental and social impact. This information is essential for tracking and incorporating external costs into financial performance metrics (Kuberska, 2020). Transparency through environmental, social, and governance (ESG) disclosures and strong ESG ratings can reduce volatility and risk for companies undertaking initial public offerings (IPOs). These disclosures signal a company's commitment to sustainability norms and enhance its reputational capital among investors (Reber et al., 2021). Legitimacy theory suggests that disclosing environmental performance is a way for companies to demonstrate their participation in addressing environmental challenges. This disclosure can be viewed as a form of corporate moral responsibility towards the environment (Malesios et al., 2018). Notably, adopting sustainable practices, such as robust environmental management, has been linked to positive financial performance through metrics like lower employee turnover and increased business growth (Malesios et al., 2018). The impact of sustainability practices on financial performance can be categorized as internal and external. While internal initiatives like pollution prevention and green supply chains directly improve financial results, external initiatives like developing environmentally friendly products provide secondary benefits (Miroshnychenko et al., 2017). The magnitude and timing of this impact can vary by industry, with some benefits taking several years to materialize (Li et al., 2017).

Much research supports a positive relationship between sustainable practices and financial performance. Muhmad and Muhamad (2020) report that 96% of studies find a positive correlation between the two. Cantele and Zardini (2018) Further, it suggests that sustainability practices contribute to competitive advantage, ultimately improving financial performance. This aligns with prior research by Branco and Rodrigues (2006), Coffman and Umemoto (2010) which highlights the positive influence of detailed environmental disclosures within sustainability reports on a company's financial performance. Based on this review, the research hypothesis is:

H_2: Environmental aspects of sustainability reporting have a positive influence on financial performance.

Social Aspects of Sustainability Reporting and Financial Performance

Stakeholder theory emphasizes ethical relationships built on integrity, respect, fairness, and inclusivity (Harrison and Wicks, 2021). Sustainable development requires focusing on economic and social aspects, fostering community and commitment, and ensuring long-term social harmony (Bijl, 2011). Corporate sustainability necessitates socially responsible behavior, prioritizing shareholder value while building a foundation for social sustainability. This involves aligning operational activities to meet societal needs and support healthy exchanges between society and nature (Joshi and Li, 2016). Accountants play a crucial role by integrating social performance metrics into financial reporting and management control systems to ensure long-term sustainability (Joshi and Li, 2016; Littig and Griessler, 2005).

Companies achieve balanced development by disclosing a combination of economic, environmental, and social aspects in sustainability reports, also known as Triple Bottom Line (TBL) or Triple P (People, Planet, Profit) reports (Caraiani et al., 2018). Sustainability reports provide information on social aspects, including corporate social responsibility as a form of long-term ethical commitment (Iswati, 2020). The social dimension of sustainability encompasses a sense of community, social capital, and commitment, all of which are critical for societal well-being and survival (Bijl, 2011). Management teams with strong ethical and governance practices extending beyond social, legal, and accounting considerations are necessary to respond effectively to sustainability disclosures. This focus allows companies to better serve stakeholders and society as a whole (Capener et al., 2017). The social section within a sustainability report details the company's impact on the surrounding community, including potential risks associated with interactions with other social institutions it manages (Natalia, 2014). This section also demonstrates the company's proactive approach to anticipating societal issues.

Research by Pramudito *et al*. (2022) suggests that the social aspects of sustainability reporting have a 39.5% influence on financial performance. This finding aligns with Elkholy (2020), who reports a positive and significant influence of the social dimension on financial performance. Similarly, Caesaria and Basuki (2017), Clarissa and Rasmini (2018) found a positive influence of the social aspect of sustainability reporting on financial results. Based on this review, the research hypothesis is:

H_3: Social aspects of sustainability reporting have a positive influence on financial performance.

Economic Aspects of Sustainability Reporting and Firm Value

In Indonesia, Financial Services Authority Regulation Number 51/POJK.03/2017 concerning Sustainable Finance mandates sustainability reporting for listed companies on the Indonesia Stock Exchange (IDX). This regulation reflects the growing importance of sustainability disclosure in response to stakeholder demands for non-financial information (North, 2017)

Integrating the five dimensions of environmental, social, governance, ethical, and economic (EGSEE) performance into corporate culture, business models, and reporting practices can potentially create stakeholder value and enhance company value creation. (Rezaee, 2016). Notably, the economic aspects of sustainability reports have shown continuous improvement, particularly in context and commitment. (Perez and Sanchez, 2009). Sustainability practices can positively impact a company's image and reputation, demonstrating a positive and direct relationship between economic, social, and environmental aspects (Martínez and Bosque, 2014).

The existing research on the economic aspects of sustainability reporting and company value presents mixed findings. While Linh et al. (2022) Identify a positive correlation, Tangke et al. (2022) Report an insignificant positive association. However, Bartlett (2012), Mulya and Prabowo (2018), and Febriyanti (2021) All find a significant favorable influence of economic aspects in sustainability reporting on company value. Based on this inconclusive evidence, the hypothesis of this research is:

H_4: Economic aspects of sustainability reporting have a positive influence on firm value.

Environmental Aspects of Sustainability Reporting and Firm Value

Legitimacy assessments are influenced by the credibility of industry associations, environmental NGOs, and mass media, all of which shape global values related to sustainable development (Finch et al., 2015). Companies operating in environmentally sensitive sectors prioritize transparency and legitimacy within their sustainability reports, recognizing them as tools for stakeholder accountability (Cunha and Moneva, 2018). However, companies facing environmental issues may be motivated by self-legitimation and image repair, in addition to strategic differentiation and potential benefits (Ribeiro et al., 2022).

The observed improvement in the quality of sustainability reporting over time suggests a growing focus on strategies to gain legitimacy and stakeholder support (Ching and Gerab, 2017). Transparency regarding environmental practices can enhance analysts' forecasting abilities and increase legitimacy among stakeholders, ultimately reducing information asymmetry financial analysts face (Cormier and Magnan, 2015). Furthermore, robust ESG disclosures and strong ESG ratings are associated with reduced volatility and risk for companies undertaking initial public offerings (IPOs). High ESG ratings signal a company's commitment to sustainability norms and enhance its reputational capital with investors (Reber et al., 2021). The positive and direct relationship between environmental aspects of sustainability reporting and a company's image and reputation has also been demonstrated (Martínez and Bosque, 2014).

Existing research supports a positive impact of environmental sustainability practices and disclosures on company value. Studies by Ammer et al. (2020), Atahau and Kausar (2022), Febriyanti (2021), Palupi (2023), and Pratama et al. (2020) all report positive and significant associations between environmental disclosure and company value. Based on this body of evidence, the hypothesis of this research is:

H_5: Environmental aspects of sustainability reporting have a positive influence on firm value.

Social Aspects of Sustainability Reporting and Firm Value

Sustainability reports serve as instruments for facilitating social interaction and analyzing the social costs and benefits of business activities. They play a crucial role in promoting sustainable growth within capitalist enterprises and improving the quality of life for community members (Gazzola and Carlotta, 2011). Social sustainability, a core sustainability concept, emphasizes community, commitment, and social capital as essential for societal well-being. It highlights the importance of work as a means to fulfill needs and facilitate exchange between society and the environment (Bijl, 2011).

Disclosure of social performance is increasingly recognized as a critical business practice. It can enhance competitiveness, generate positive social outcomes, and facilitate performance evaluation. Ultimately, robust social disclosure can contribute to long-term value creation and business growth (Noronha and Wang, 2015). Corporate social disclosure plays a vital role for stakeholders and the company. For stakeholders, transparency reduces information uncertainty and facilitates informed economic and financial decision-making. For companies, disclosure serves as a valuable communication tool, enhancing stakeholder understanding of the company's business strategy and fostering trust (Slihat and Zureigat, 2018). Positive social

disclosure can cultivate a favorable perception within society, portraying the company as empathetic and committed to social good.

The existing research on the relationship between social aspects of sustainability reporting and company value presents mixed findings. Bawai and Kusumadewi (2021) report a positive but not statistically significant influence, while Astuti et al. (2022), Novia and Halmawati (2022), Pramitha and Sudana (2021), and Zarlia and Salim (2014) all find a positive impact. Given these inconclusive results, the hypothesis of this research is:

H_6: Social aspects of sustainability reporting have a positive influence on firm value.

Financial performance and Firm Value

DuPont analysis is a visual tool for evaluating a company's financial performance. It facilitates comparisons between relative accounting values grouped into strategic categories (Saus–Sala et al., 2021). This method extends traditional financial ratio analysis by decomposing Return on Equity (ROE) into its key drivers: Profit Margin, Total Assets Turnover, and Leverage Factor (Mihola et al., 2016). Consequently, DuPont analysis reveals potential avenues for increasing ROE through improvements in profitability, asset utilization, and financial leverage (Arsad et al., 2022).

A strong correlation exists between good financial performance and high company value (Ochego et al., 2019). Empirical research supports this connection. Susilowati et al. (2019) identified a significant positive influence of financial performance on company value. Similarly, Irwanti and Ratnadi (2021), Luthfiah and Suherman (2018), and Santosa et al. (2020) all report positive relationships between the two constructs. Based on this body of evidence, the hypothesis of this research is:

H_7: Financial performance has a positive influence on firm value.

Financial Performance as a Moderating Variable

The economic aspects of sustainability reporting encompass a company's financial performance, resource efficiency (Egan, 2019), environmental impacts, and economic contributions to its host communities. Transparent disclosure of this information, often driven by stakeholder pressure (Fernandez-Feijoo et al., 2014) allows companies to demonstrate their commitment to responsible and sustainable practices. Sustainable practices can lead to improved financial growth, enhanced decision-making, and greater access to capital (Almansoori and Nobanee, 2019). This is achieved through a reduction in perceived risk by investors, ultimately leading to the potential for long-term value creation. Lower risk translates to lower capital costs, freeing resources for investments in ongoing sustainability initiatives and operational improvements. Research by Saling (2015) suggests that managing sustainability strategically can enhance a company's reputation and value, attract and retain customers (thereby increasing sales and market share), and ultimately strengthen its financial position, enabling further investment in sustainability initiatives.

Similarly, Beheshti and Beheshti (2010) increased operational efficiency through process improvements and innovation leading to cost savings and increased productivity, contributing to improved financial performance. These improvements create a positive feedback loop, strengthening the company's financial position and enabling further investment in sustainability initiatives. Finally, improved risk management practices, as highlighted by Pradhan and Routroy (2014) can mitigate potential risks and disruptions, providing a long-term

competitive advantage. Enhanced risk management can also increase investor confidence and increase company value. Based on this review of the potential benefits associated with the economic aspects of sustainability reporting, this research proposes a mediating influence of financial performance on the relationship between economic sustainability disclosure and company value. The hypothesis is:

H_8: Financial performance mediates the positive influence of economic aspects of sustainability reporting on firm value.

The environmental aspect of sustainability reporting focuses on a company's efforts to manage its environmental footprint. This includes activities such as reducing energy consumption, emissions, and waste production, controlling pollution, and implementing environmental management systems (Jatayan and Sharma, 2022). By disclosing environmental management information transparently, companies can enhance their legitimacy with the public. This, in turn, can lead to increased sales, profits, and ultimately, company value (Soelistyoningrum and Prastiwi, 2011).

Research supports that environmental management and compliance systems can contribute to financial performance. Tam et al. (2006) found that such systems minimize fines and penalties, thereby boosting profits. Similarly, Krämer and Engell (2018) highlight the cost-saving potential of resource efficiency practices, particularly in resource-intensive industries. These practices encompass energy, water, and material conservation. Furthermore, waste reduction and recycling programs can significantly reduce waste disposal costs, leading to improved financial health (Rosenfeld and Feng, 2011). Odell and Ali (2016) provide evidence that companies with substantial environmental, social, and governance practices outperform their counterparts financially. These companies grow faster, manage corporate risk more influentially, and achieve superior financial performance. This can be attributed to the increasing investor focus on environmental factors, leading to potentially higher company valuations and market capitalization. Based on this review of the potential financial benefits associated with environmental sustainability reporting, this research proposes a mediating influence of financial performance on the relationship between environmental sustainability disclosure and company value. The hypothesis is

H_9: Financial performance mediates the positive influence of environmental aspects of sustainability reporting on firm value.

The social dimension of sustainability reporting focuses on a company's efforts to manage its impact on employees, communities, and society. This aligns with the principles of corporate social responsibility (CSR), which aims for long-term mutual benefit for both the company and society (Vlastelica-Bakić et al., 2012). Positive social practices can influence financial performance, consumer behavior, and company reputation. Examples of social sustainability efforts include diversity and inclusion initiatives, employee engagement programs, human rights practices, community involvement, and product safety. Transparent disclosure of these efforts demonstrates a company's commitment to social responsibility, potentially leading to financial benefits and increased company value.

Research suggests that social sustainability practices can contribute to financial performance. O'Brien et al. (2015) found that diversity programs can lead to a more engaged and satisfied workforce, resulting in lower turnover and recruitment costs. A motivated

workforce translates to higher productivity and efficiency, directly impacting profits (Galli, 2020). Pimm et al. (2019) argue that investing in social sustainability fosters a solid and loyal workforce, contributing to long-term stability and resilience. Additionally, adhering to human rights standards and fair labor practices helps companies avoid legal issues and financial penalties (Aßländer, 2018). Strong social practices can build trust with stakeholders, fostering a positive and supportive environment for the company (Pirson and Malhotra, 2008). Ultimately, companies that address social problems and contribute to societal well-being through sustainable business models are positioned for long-term success and higher company value (Bocken et al., 2014). Based on this analysis of the potential financial benefits associated with social sustainability reporting, this research proposes a mediating influence of financial performance on the relationship between social sustainability disclosure and company value. The hypothesis is:

H_{10}: Financial performance mediates the positive influence of aspects of social sustainability reporting on firm value.

3. RESEARCH METHOD

Population and Sample

The population of this study is all public companies in the energy and raw materials sector from 2018 to 2022. The use of public companies in the energy and raw materials sector listed on the Indonesia Stock Exchange as the population is because these companies play a significant role in achieving the Indonesian government's target of reducing greenhouse gas emissions, have a close relationship with the environment, and are one of the parties actively involved in running the Indonesian Economic and have direct dealings with stakeholders and shareholders. The sampling procedure in this study is purposive sampling. The sampling criteria are all public companies in the energy and raw materials sector listed on the Indonesia Stock Exchange from 2018 to 2022. The data to be processed is from financial, annual, and sustainability reports obtained from the companies and IDX's official websites. The specific sampling criteria for this study are as follows: 1) Companies listed on the Indonesia Stock Exchange that are in the energy and raw materials sector from 2018 to 2022; 2) Companies in the energy and raw materials sector listed on the Indonesia Stock Exchange that publish a GRI standards sustainability report, either separately or integrated into their annual report, from 2018 to 2022. Table 1 presents sampling selection procedure. Based on the criteria, 20 companies were selected.

Table 1. Sample Selection

Criteria	Total
Energy material companies from 2018 to 2022	83
Raw material companies from 2018 to 2022	105
Energy companies that did not publish their sustainability report using GRI standards between 2018 and 2022	(73)
Raw material companies that did not publish their sustainability report using GRI standards between 2018 and 2022	(95)
Total	20

Variable Measurement

Sustainability Reporting

Sustainability reports can be published separately or integrated into annual reports (Damayanthi, 2019). Measuring sustainability reports uses the content analysis method, which is a method of codifying reading content from several articles into various categories based on specific criteria (Melani and Wahidahwati, 2017). Sustainability reporting uses the Sustainability Report Disclosure Index (SRDI) measurement with GRI standards, including 89 disclosure items for economic, environmental, and social aspects. Give a score of one if the item is disclosed and zero if it is not disclosed, after which the scores are added up to obtain an overall score for each company (Latifah and Luhur, 2017).

Economic Aspect of Sustainability Reporting

The economic aspect of sustainability reporting focuses on an organization’s impact on the economic well-being of its stakeholders and the broader economy at local, national, and global levels. It encompasses the flow of capital among stakeholders and the organization’s primary economic impacts on society. Unlike financial reporting, which primarily focuses on an organization’s internal financial performance, the economic aspect of sustainability reporting emphasizes the organization’s external economic influence (Mairal, 2015). Sustainability reporting is a platform for companies to voluntarily disclose information regarding the economic impacts generated by their operations (Girón et al., 2021).

$$\text{Ec}DI = \frac{V}{M}$$

EcDI is the economic disclosure index, V is the number of disclosed items, and M is the maximum number of disclosed items (17 items).

Environmental Aspect of Sustainability Reporting

The environmental aspect of sustainability reporting refers to an organization’s environmental impact, including using natural resources, emissions, and waste production. Companies can encourage sustainability and protect nature by implementing sustainable and environmentally conscious practices such as energy-saving technologies, waste reduction, and recycling initiatives, developing environmentally friendly products and processes, setting environmental performance targets, and reporting progress in demonstrating a commitment to sustainability (Meagher, 2023). Through sustainability reports, companies disclose voluntary information regarding the environmental impacts of company activities. Sustainability reports provide information about the environmental aspects of a business over a certain period. Companies can disclose the company’s sustainable activities in many ways, and sustainability reports are an essential part of the company’s communication strategy (Kvasničková et al., 2023).

$$\text{En}DI = \frac{V}{M}$$

EnDI is the environmental disclosure index, V is a number of disclosed items, and M is the maximum number of disclosed items (36 items).

Social Aspect of Sustainability Reporting

The social aspect of sustainability reporting refers to the impact of company operations on society and communities, including employees, customers, suppliers, and other

stakeholders. (Szczuka, 2015). Companies can promote social sustainability by implementing socially responsible practices such as ensuring fair employment, encouraging diversity and inclusion, supporting local communities, and protecting human rights. (Hogrefe and Bohnet-Joschko, 2023). Social sustainability is an essential aspect of sustainable development, which refers to meeting the needs of the present without compromising the ability of future generations to meet their own needs. In contrast to economic and environmental indicators, social indicators are more complex and diverse, reflecting the values, norms, and preferences of different societies and cultures. Therefore, there is no single or universal social indicator that can capture the diverse and dynamic nature of social sustainability (Machdar, 2019).

$$\text{So}DI = \frac{V}{M}$$

SoDI is the social disclosure index, V is the number of disclosed items, and M is the maximum number of disclosed items (36).

Financial Performance

According to Fahmi (2011), financial performance refers to how well a company has implemented financial regulations properly and correctly. Financial analysis tools can be used to determine the financial status of a company in terms of its achievements over time to determine whether its financial status is good or bad. To face the challenges of environmental change, resources must be utilized effectively. Several ratios that can be used as measuring tools include liquidity, solvency, activity, profitability, and valuation. For this study, researchers used DuPont analysis as a proxy for financial performance. DuPont analysis is based on a combination of profitability and activity ratios and is intended to assess how well a company can allocate its capital and generate profits (Dwiningsih, 2018). Alternatively, the DuPont System can be viewed as a financial performance measurement tool that emphasizes calculating the components of a company's balance sheet and profit and loss report. The DuPont system provides information about factors influencing a company's financial performance (Tarmizi and Marlim, 2016).

$$DuPont\ Analysis = Net\ Profit\ Margin \times Asset\ Turnover \times Equity\ Multiplier$$

where net profit margin equals net income divided by revenue, asset turnover equals revenue divided by average total assets, and equity multiplier equals total assets divided by the total of shareholders' equity.

Firm Value

In this study, firm value is defined as the total worth of a business. It is an indicator of the level of public trust earned by a company after achieving a certain level of operational performance (Sari and Wahidahwati, 2018). Firm value is measured as the market-to-book ratio of equity, using the market value of equity divided by the book value of equity. High book-to-market stocks (value stocks) tend to outperform low book-to-market stocks (growth stocks), although the underlying reasons are debated (Cakici and Topyan, 2014).

$$\text{Firm Value} = \frac{Equity\ Market\ Value}{Equity\ Book\ Value}$$

where equity market value equals market capitalization and equity book value equal total assets reduced by total liabilities.

Research Model

The following regression model is used to test the hypotheses:

$$FP = \alpha + \beta_1 SR_{Economy} + \beta_2 SR_{Environment} + \beta_3 SR_{Social} + \varepsilon \quad (1)$$
$$FV = \alpha + \beta_1 SR_{Economy} + \beta_2 SR_{Environment} + \beta_3 SR_{Social} + \beta_4 FP + \varepsilon \quad (2)$$

where FP is Financial Performance, SR is Sustainability Reporting, and FV is firm value. Furthermore, the Sobel test was employed to evaluate the indirect effect of sustainability reporting on firm value mediated by financial performance. This statistical test determines the probability that the indirect effect is significantly different from zero. As this correlational study goes, the significance of a relationship between an independent and dependent variable is determined by the p-value. A p-value less than 0.05 indicates a significant relationship, leading to the rejection of the null hypothesis. Conversely, a p-value greater than 0.05 suggests insufficient evidence to reject the null hypothesis, implying no significant relationship. The coefficient's sign (positive or negative) determines the direction of the relationship: positive for a direct relationship and negative for an inverse relationship.

4. RESULTS AND DISCUSSION

Descriptive Statistics

As shown below, descriptive statistics are summarized in Table 2 to provide a comprehensive overview of the sample. The analysis of sustainability reporting disclosures reveals a consistent pattern across the three aspects: economic, environmental, and social.

Table 2. Descriptive Statistics

Variables	N	Mean	Minimum	Median	Maximum	Std. Deviation
Economic	100	0.396	0.059	0.618	1.000	0.250
Environmental	100	0.412	0.028	0.681	0.861	0.237
Social	100	0.440	0.083	0.750	1.000	0.253
DuPont	100	4.455	-411.253	8.260	69.942	51.937
Tobin's Q	100	1.426	-1.189	1.182	8.007	1.247

The data for each aspect exhibits a centralized distribution around the mean value, accompanied by relatively small standard deviations. This observation suggests a degree of homogeneity in the sustainability reporting disclosures among the sample companies. Delving further into the average disclosure levels, we find that companies, on average, disclose 7 out of 17 items in the economic sustainability reporting aspect, 15 out of 36 items in the environmental sustainability reporting aspect, and 16 out of 36 items in the social sustainability reporting aspect. These findings provide insights into the extent to which companies embrace sustainability reporting practices and the specific focus areas within each aspect.

Financial performance exhibits a more heterogeneous distribution. The standard deviation for financial performance is substantially more significant than the mean, indicating a more comprehensive range of performance outcomes among the sample companies. This heterogeneity reflects companies' diverse financial realities in the energy and materials sector. Despite the observed heterogeneity, the average financial performance for the sample companies is 4.455%, as measured using DuPont analysis.

Firm value demonstrates a centralized distribution around the mean value, accompanied by a relatively small standard deviation. This suggests a degree of homogeneity in firm valuation among the sample companies. The average firm value ratio, calculated as the ratio of market value to book value, is greater than 1. This observation implies that the market value of the companies in the energy and materials sector, on average, exceeds their book value by 1.426 times. This finding raises questions about potential overvaluation within the sector, warranting further investigation. In contrast to the relatively homogeneous distribution of sustainability reporting disclosures, financial performance exhibits a more heterogeneous distribution. The standard deviation for financial performance is substantially more significant than the mean, indicating a more comprehensive range of performance outcomes among the sample companies. This heterogeneity reflects companies' diverse financial realities in the energy and materials sector. Despite the observed heterogeneity, the average financial performance for the sample companies is 4.455%, as measured using DuPont analysis. This average performance provides a benchmark for assessing the relative financial standing of individual companies within the sector.

Similar to sustainability reporting disclosures, firm value demonstrates a centralized distribution around the mean value, accompanied by a relatively small standard deviation. This suggests a degree of homogeneity in firm valuation among the sample companies. The average firm value ratio, calculated as the ratio of market value to book value, is greater than 1. This observation implies that the market value of the companies in the energy and materials sector, on average, exceeds their book value by 1.426 times. This finding raises questions about potential overvaluation within the sector, warranting further investigation.

Results and Discussion

As previously stated, this research examines the influence of the economic, environmental, and social aspects of sustainability reporting on firm value mediated by financial performance in energy and raw materials companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022. The independent variable used in this research is the economic, environmental, and social aspects of sustainability reporting. Meanwhile, the dependent variable is firm value, and the intervening variable is financial performance. Table 3 shows the regression result of equation 1.

Table 3. Regression Result of Equation One

Variables	Coefficients	*t-stat*	*p-value*
$SR_{Economic}$	0.007	0.089	0.930
$SR_{Environmental}$	0.180	2.979	0.004
SR_{Social}	0.275	3.043	0.003

Economic Aspect of Sustainability Reporting and Financial Performance

According to Table 3, which shows the regression result of equation 1, the economic aspect of sustainability reporting does not exhibit a statistically significant influence on financial performance, with a coefficient of 0.007 and a p-value of 0.930 which is more than 0.05. This finding suggests there is no association between the two variables, thus failing to support the first hypothesis, suggesting that the economic aspect of sustainability reporting does not affect financial performance. The result is consistent with the research of Lehenchuk et al. (2023) but contradicts Carolina et al. (2020), Ebaid (2023), and Lestari and Irma (2021).

The hypothesis's rejection indicates incompatibility with the provisions of stakeholder theory, which explicitly characterizes the influence of additional forms of information disclosure on company performance. In this research, the economic aspect of sustainability reporting cannot drive sustainable performance for the company. Disclosure of non-financial information on economic aspects in sustainability reports cannot catalyze companies to improve their financial performance and reputation with stakeholders and society.

Environmental Aspect of Sustainability Reporting and Financial Performance

The regression analysis reveals a statistically significant positive influence of the environmental aspect of sustainability reporting on financial performance, with a coefficient of 0.180 and a p-value of 0.004, which is less than 0.05. This finding supports the second hypothesis, showing that the environmental aspect of sustainability reporting influences financial performance.

Acceptance of the hypothesis shows conformity with the legitimacy theory. The company’s existence and participation in dealing with environmental problems have a positive relationship with the company’s financial performance. In this research, the environmental aspect of sustainability reporting can drive sustainable performance for companies. Disclosure of company non-financial information on environmental aspects in sustainability reports can catalyze companies to improve financial performance and reputation with stakeholders and society. The results of this research confirm research of Branco and Rodrigues (2006), Coffman and Umemoto (2010), and Cantele and Zardini (2018) which suggests that environmental aspects of sustainability reporting have a positive influence on financial performance.

Social Aspect of Sustainability Reporting and Financial Performance

The regression analysis examining the influence of the social aspect of sustainability reporting on financial performance yielded a statistically significant positive relationship with a coefficient of 0.275 and a p-value of 0.003, which is less than 0.05. This finding supports the third hypothesis, suggesting that the social aspect of sustainability reporting influences financial performance.

Acceptance of the hypothesis shows conformity with stakeholder theory. With this, the suitability of stakeholder theory, which focuses on value creation through ethical relationships governed by principles such as integrity, respect, fairness, generosity, and inclusiveness (Harrison and Wicks, 2021), is achieved. In this research, the social aspect of sustainability reporting can reveal the impact of company management on the community where the company operates and the company’s concern in anticipating social issues. Disclosure of company non-financial information on environmental aspects in sustainability reports can catalyze companies to improve financial performance and reputation with stakeholders and society.

The results of this research confirm the research of Caesaria and Basuki (2017), Clarissa and Rasmini (2018), and Pramudito et al. (2022) which states that the social aspect of sustainability reporting positively influences financial performance.

Table 4. Regression Result of Equation two

Variables	Coefficients	*t-stat*	*p-value*
$SR_{Economic}$	-0.0252	-5.265	0.000
$SR_{Environmental}$	0.303	8.249	0.000
SR_{Social}	-0.002	-0.039	0.969
FP	0.063	3.078	0.003

Economic Aspect of Sustainability Reporting and Firm Value

According to table 4, which shows the regression result of equation 2, the regression analysis revealed a statistically significant negative influence of the economic aspect of sustainability reporting on firm value with a coefficient of -0.0252 and a p-value of 0.000. This finding contradicts the fourth hypothesis, implying that the economic aspect of sustainability reporting does not affect firm value.

The rejection of the hypothesis shows a mismatch in the integration of economic aspects in the company's sustainability culture. A relationship in the opposite direction exists between sustainability reporting economic aspects and company value. Company value will decrease when increasing economic aspects of sustainability reporting are used. This has a negative relationship with the economic aspect of sustainability reporting on the company's image and reputation. In this research, disclosure of company non-financial information on economic aspects in sustainability reports cannot catalyze companies to increase company value.

The results of the research conducted contradict the research of Mulya and Prabowo (2018), Febriyanti (2021), Tangke et al. (2022), and Linh et al. (2022) which states that the economic aspects of sustainability reporting have a positive influence on firm value.

Environmental Aspect of Sustainability Reporting and Firm Value

The regression analysis identified a statistically significant positive relationship between the environmental aspect of sustainability reporting and firm value with a coefficient of 0.303 and a p-value of 0.000. This finding aligns with the fifth hypothesis, supporting that the environmental aspect of sustainability reporting affects firm value.

Acceptance of the hypothesis shows conformity in legitimacy theory. Companies in the energy and raw materials sector, a sector sensitive to the environment, recognize sustainability reporting as an instrument of accountability to stakeholders and is accepted by stakeholders to improve the company's image. With this, if there is an increase in the use of environmental aspects of sustainability reporting, there will also be an increase in the company's image, reputation, and value. In this research, disclosure of company non-financial information on environmental aspects in sustainability reports can catalyze companies to increase company value. The results of the research conducted confirm the research of Ammer et al. (2020),

Palupi (2023), and Pratama et al. (2020) which states that the environmental aspect of sustainability reporting positively influences company value.

Social Aspect of Sustainability Reporting and Firm Value

The regression analysis revealed no significant relationship between the social aspect of sustainability reporting and firm value, with a coefficient of -0.002 and a p-value of 0.969. This finding fails to support the sixth hypothesis, indicating that the social aspect of sustainability reporting does not influence firm value.

The rejection of the hypothesis shows an incompatibility with the function of the sustainability report, which functions as an instrument for social interaction that encourages sustainable growth and improves society's quality of life. Social sustainability, which is rooted in the concept of community, commitment, and social capital as important elements for society's livability, cannot influence company value. In this research, disclosure of company non-financial information on social aspects in sustainability reports cannot catalyze companies to increase company value. The results of the research conducted contradict the research. of Astuti et al. (2022), Bawai and Kusumadewi (2021), and Novia and Halmawati (2022) which states that the social aspect of sustainability reporting positively influences company value.

Financial Performance and Firm Value

The fifth hypothesis predicts that financial performance is positively associated with firm value. The results aligned the prediction with a p-value of 0.003 and a regression coefficient of 0.063. Thus, the fifth hypothesis is supported, indicating that financial performance influences firm value.

Acceptance of the hypothesis shows that good companies have high company value (Ochego et al., 2019). If financial performance increases, company value will also increase. This research shows that a company’s financial performance can be a catalyst for increasing company value. The results of the research confirm the research of Luthfiah and Suherman (2018), Santosa et al. (2020), and Irwanti and Ratnadi (2021), which state that financial performance has a positive influence on company value.

Financial Performance Mediate the Economic Sustainability Reporting and Firm Value

Based on the Sobel test results in Table 5, the p-value of the independent variable for the economic aspect of sustainability reporting is 0.9303, which is more than 0.05. This indicates that financial performance does not mediate the influence of the economic aspect of sustainability reporting on company value. Thus, it can be concluded that the eighth hypothesis is rejected because it does not support the hypothesis that has been proposed.

Table 5. Sobel Test of Hypothesis 8

Sobel Test							
a	0,007	b	0,063	Sa	0,080	Sb	0,020

	Test Statistic	Std. Error	p-value
Sobel test	0,0875	0,0050	0,9303

The economic aspect of sustainability reporting contains financial performance, resource efficiency, and contribution to the community in which the company operates. However, increased operational efficiency from process improvements and innovations that result in cost savings and increased productivity cannot improve financial performance. Rejection of the hypothesis indicates that sustainable practices do not increase financial growth and long-term value creation potential. In this research, the influence of economic aspects of sustainability reporting cannot improve the company's financial performance, which ultimately cannot increase the company's value.

Financial Performance Mediate the Environmental Sustainability Reporting and Firm Value

Based on the Sobel test results in Table 6, the p-value of the independent variable for the environmental aspect of sustainability reporting is 0.0298, which is less than 0.05. This indicates that financial performance mediates the influence of the environmental aspect of sustainability reporting on firm value. Thus, it can be concluded that the ninth hypothesis is supported because it aligns with the hypothesis that has been proposed.

Table 6. Sobel Test for Hypothesis 9

Sobel Test							
A	0,180	b	0,063	Sa	0,060	Sb	0,020
		Test Statistic		Std. Error		p-value	
Sobel test		2,1724		0,0052		0,0298	

The environmental aspect of sustainability reporting contains the company's efforts to manage its environmental impact, including reducing energy consumption, emissions, waste production, controlling pollution, and implementing a sustainable environmental management system. Acceptance of the hypothesis shows that the increase in legitimacy from the public obtained by the company by transparently disclosing environmental management information can improve financial performance, thereby increasing company value in sensitive sectors such as the energy and raw materials sectors, resource efficiency, which includes energy, water, and material conservation, results in significant cost savings. Because companies with substantial environmental, social, and governance (ESG) practices can achieve superior financial performance, grow faster, and manage risks better, investors are more likely to consider companies with good sustainability, which can increase valuation and company market capitalization. The influence of environmental aspects of sustainability reporting can improve a company's financial performance, ultimately increasing company value.

Financial Performance Mediate the Social Sustainability Reporting and Firm Value

Based on the Sobel test results in Table 7, the p-value of the independent variable for the social aspect of sustainability reporting is 0.0283, which is less than 0.05 and indicates that financial performance mediates the influence of the social aspect of sustainability reporting on firm value. Thus, it can be concluded that the tenth hypothesis is supported because it aligns with the hypothesis that has been proposed.

Table 7. Sobel Test for Hypothesis 10

Sobel Test							
a	0,275	b	0,063	Sa	0,090	Sb	0,020

	Test Statistic	Std. Error	p-value
Sobel test	2,1932	0,0079	0,0283

The social aspect of sustainability reporting contains the company's efforts to manage the impact on employees, communities, and society, which aims to achieve long-term benefits for both the company and society and positively impacts financial performance, consumer behavior, and, ultimately, the company's reputation. Acceptance of the hypothesis shows that transparent disclosure of information such as diversity and inclusion, employee involvement, human rights, community involvement, and product safety allows companies to demonstrate their commitment to social responsibility, resulting in potential financial performance and company value benefits. Companies that can create a more sustainable business model by overcoming social problems and contributing to the welfare of society will be guaranteed long-term success and company value. In this research, the influence of social sustainability reporting aspects can improve a company's financial performance, ultimately increasing company value.

5. CONCLUSIONS AND SUGGESTIONS

This research empirically tests the influence of economic, environmental, and social aspects of sustainability reporting on company value, mediated by financial performance, in energy and raw materials sector companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022. The sample comprised 20 companies selected through purposive sampling over a 5-year research period. The results of this analysis lead to the following conclusions:

Research results indicate that H_1 does not align with the proposed hypothesis. The economic aspect of sustainability reporting does not have a significant impact on financial performance, contradicting stakeholder theory expectations. Consequently, economic sustainability reporting does not appear to drive sustainable company performance, nor does the disclosure of non-financial economic information catalyze improvements in financial performance, stakeholder relations, or societal standing. In contrast, H_2 results support the hypothesis. The environmental aspect of sustainability reporting positively and significantly influences financial performance, aligning with legitimacy theory. Companies demonstrating commitment to environmental issues show improved financial performance and enhanced reputation, suggesting that disclosure of environmental non-financial information catalyzes positive outcomes. Similarly, H_3 findings are consistent with the hypothesis, demonstrating that the social aspect of sustainability reporting significantly impacts financial performance. This aligns with stakeholder theory, underscoring the importance of ethical relationships and community engagement in shaping company performance and reputation. Disclosure of social non-financial information can also catalyze enhancing financial performance and stakeholder relations.

However, H_4 results do not support the hypothesis. The economic aspect of sustainability reporting has a significantly negative impact on company value. This suggests that increasing economic reporting does not necessarily enhance company value and may even diminish it, reflecting a negative relationship between economic aspects of sustainability reporting and company image. Conversely, H_5 results confirm the hypothesis that the environmental aspect of sustainability reporting positively influences company value, consistent with legitimacy theory. Companies in environmentally sensitive sectors benefit from enhanced company image and value through transparent environmental management practices. H_6 findings contradict the hypothesis, showing that the social aspect of sustainability reporting has no impact on company value. This suggests limitations in the role of social sustainability in driving financial performance and enhancing company worth. Additionally, H_7 results support the hypothesis that financial performance significantly mediates company value. Companies with strong financial performance tend to have higher company value, highlighting the pivotal role of financial metrics in determining company worth.

However, H_8 results contradict the hypothesis that financial performance mediates the influence of economic aspects of sustainability reporting on company value. Despite efforts to integrate economic aspects such as efficiency and community contributions, these practices do not improve financial performance or long-term value creation. Moreover, H_9 findings support the hypothesis that financial performance mediates the influence of environmental aspects of sustainability reporting on company value. The influence of environmental management positively impacts financial performance and enhances company value through increased public legitimacy and improved operational efficiency. Similarly, H_{10} results support the hypothesis that financial performance mediates the influence of social aspects of sustainability reporting on company value. Companies that effectively manage their social responsibilities demonstrate improved financial performance and increased company value, indicating that transparent social practices yield positive outcomes.

The research acknowledges several limitations including the short observation period (2018-2022), measurement method constraints in assessing company value and financial performance, and variations in sustainability reporting standards over the years. Future research could expand on these findings by broadening the sample size, extending the research period, exploring alternative measurement methods, and investigating other potential mediators of sustainability reporting on company value. This study suggests that companies should consider enhancing their sustainability reporting practices to comply with regulations and improve their management, stakeholder relations, and overall environmental and social impacts.

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GRI Standards

GRI STANDARDS	CONTENTS
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed
	201-2 Financial implications and other risks and opportunities due to climate change
	201-3 Defined benefit plan obligations and other retirement plans
	201-4 Financial assistance received from government
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage
	202-2 Proportion of senior management hired from the local community
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported
	203-2 Significant indirect economic impacts
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption
	205-2 Communication and training about anti-corruption policies and procedures
	205-3 Confirmed incidents of corruption and actions taken
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices
GRI 207: Tax 2019	207-1 Approach to tax
	207-2 Tax governance, control, and risk management
	207-3 Stakeholder engagement and management of concerns related to tax
	207-4 Country-by-country reporting
GRI 301: Materials 2016	301-1 Materials used by weight or volume
	301-2 Recycled input materials used

	301-3 Reclaimed products and their packaging materials
GRI 302: Energy 2016	302-1 Energy consumption within the organization
	302-2 Energy consumption outside of the organization
	302-3 Energy intensity
	302-4 Reduction of energy consumption
	302-5 Reductions in energy requirements of products and services
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource
	303-2 Management of water discharge-related impacts
	303-3 Water withdrawal
	303-4 Water discharge
	303-5 Water consumption
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
	304-2 Significant impacts of activities, products and services on biodiversity
	304-3 Habitats protected or restored
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions
	305-2 Energy indirect (Scope 2) GHG emissions
	305-3 Other indirect (Scope 3) GHG emissions
	305-4 GHG emissions intensity
	305-5 Reduction of GHG emissions
	305-6 Emissions of ozone-depleting substances (ODS)
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts
	306-2 Management of significant waste-related impacts
	306-3 Waste generated
	306-4 Waste diverted from disposal
	306-5 Waste directed to disposal
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria
	308-2 Negative environmental impacts in the supply chain and actions taken
GRI 401: Employment 2016	401-1 New employee hires and employee turnover
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees
	401-3 Parental leave
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes

GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system
	403-2 Hazard identification, risk assessment, and incident investigation
	403-3 Occupational health services
	403-4 Worker participation, consultation, and communication on occupational health and safety
	403-5 Worker training on occupational health and safety
	403-6 Promotion of worker health
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships
	403-8 Workers covered by an occupational health and safety management system
	403-9 Work-related injuries
	403-10 Work-related ill health
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee
	404-2 Programs for upgrading employee skills and transition assistance programs
	404-3 Percentage of employees receiving regular performance and career development reviews
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees
	405-2 Ratio of basic salary and remuneration of women to men
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs
	413-2 Operations with significant actual and potential negative impacts on local communities
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria
	414-2 Negative social impacts in the supply chain and actions taken

GRI 415: Public Policy 2016	415-1 Political contributions
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling
	417-2 Incidents of non-compliance concerning product and service information and labeling
	417-3 Incidents of non-compliance concerning marketing communications
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data

Source: Consolidated Set of GRI Standards