ESG Risk and Firm Value: The Role of Materiality in Sustainability Reporting

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ABSTRACT

Purpose: This research aims to investigate the impact of environmental, social, and governance (ESG) risk on firm value and analyse the disclosure of materiality as a moderation variable.

Methodology/Approach: We select research data through purposive sampling. We obtain ESG risk scores from Sustainalytics. Content analysis measures the materiality of sustainability disclosures. We processed 204 company data sets in Indonesia using moderated regression analysis techniques between 2020 and 2022.

Findings: Empirical results show that greater environmental, social, and governance risks will lower firm value. Furthermore, the disclosure of materiality in the sustainability report can moderate the negative impact of ESG risk on the firm's value.

Research Limitation/Implication: This research's implications are essential for standard-makers and governments to increase corporate attention to environmental, social, and governance risk aspects. The company's operations pose ESG risk, which negatively impacts market value as investors rely on this information for their decision-making. Furthermore, this research also implies that management understands the importance of materiality in sustainability reports.

Originality/Value of paper: This research enriches existing literature on corporate risk, focusing on environmental, social, and governance risks. This paper also adds references to materiality disclosure in sustainability reports.

Category: Research paper

Keywords: firm risk; ESG risk; materiality; disclosure; firm value.

Research Areas: Quality by Sustainability

1 INTRODUCTION

Sustainability is a key concern for numerous firms globally in our present business climate, especially those facing severe environmental and social risks. During the last decade, financial investors have increasingly appreciated sustainability. As a result, a significant amount of money have been directed towards assets that have a strong track record in Environmental, Social, and Governance (ESG) practices (Ferriani and Natoli, 2021). Countries have made a commitment to decarbonize their economy and shift financial resources towards sustainable activities in order to address growing environmental challenges. ESG prioritizes the company's financial profitability, environmental preservation, and social responsibility over all other objectives in order to assure the company's long-term sustainability. ESG Investment refers to a collection of international principles developed by the United Nations. Investment managers are obligated to include environmental, social, and governance (ESG) factors in their investment choices and reveal their strategy for responsible investing (Cohen, 2023b).

All investors have definable needs and preferences regarding risk tolerance, return objectives, duration, and liquidity. Nevertheless, numerous investors also possess requirements and preferences pertaining to environmental, social, and governance matters. ESG is an acronym that stands for ecological, societal, and Accountability. Investor motivations regarding environmental, social, and governance (ESG) issues exhibit significant diversity. Many individuals are motivated to include ethical ideals, values, or religious views when making investment decisions. Additional incentives include the need to mitigate ESG risks that may have a detrimental impact on investment value and to reduce the negative environmental consequences of investing.

The concerns that corporations have about ESG risks demonstrate the growing importance of how shareholders and society as a whole perceive sustainability issues. Companies are seeking strategies to mitigate these risks by recognizing the need to provide many resources to ensure the process's success. Investments can potentially undermine firms' financial stability due to their scope and characteristics. However, they can also have the opposite effect by enhancing a positive company image in the eyes of investors, customers, and the wider business community (Cohen, 2023a). Cohen (2023a) highlights the significance of sustainability risks, specifically social risks, for a company's likelihood of longevity; Therefore, effectively addressing these risks can greatly enhance the financial viability of the business. The ESG Risk Rating measures the extent to which a company's economic value faces potential risks from ESG variables or poorly managed ESG risks (Sustainalytics, 2021).

For sustainable investment, ESG integration is becoming more prevalent in mainstream financial markets. However, the transition rate of mainstream investors to ESG-based sustainable investments could be faster (Reynolds, 2014; Orlitzky, 2015; Busch, Bauer and Orlitzky, 2016; Riedl and Smeets, 2017; Maiti, 2020). Maiti (2020) explicitly highlights how risk factors change over time due to

the loss of efficiency of popular asset pricing models. In a return risk framework, Jin (2018) discovered a risk disparity between ethical and conventional investment choices. The research included ESG factors in the Fama and French (2015) Five-Factor Model, and the results showed that the US market captures ESG-related systemic risks. In other words, investors tend to hedge against ESG risks. Further studies found that responsible investments protect against systematic ESG-related risks that extensive diversification cannot even reduce (Giese and Lee, 2019).

Ferriani and Natoli (2021) discovered that ESG risks were effectively considered and incorporated into decision-making processes during the COVID-19 crisis. Following the global market meltdown in late February 2020, investors have explicitly sought funds with low environmental, social, and governance (ESG) risks while divesting from funds with high risks in these areas. Our research results show that low ESG risks have positively impacted equity fund inflows during the COVID-19 crisis, especially since the market crash. Even now, assurance is needed for sustainability reports to help stakeholders assess environmental risks (Harindahyani and Agustia, 2023). In contrast, other research results state that the impact of ESG risks, especially environmental risks, on company valuation is not significant enough (Cohen, 2023a; Hermanda and Wijaya, 2024), However, social problems must be reduced to maximize company value (Cohen, 2023b). In a context where certain contingency factors exist, the gap in several of these studies presents an exciting opportunity for further research, particularly in relation to the level of materiality disclosure in sustainability reports.

This research attempts to provide an original contribution to the empirical relationship between ESG risk and firm value. Few previous studies analysed risk; most used ESG performance scores and analysed their relationship with firm value (Fatemi, Glaum and Kaiser, 2018; Eriandani and Winarno, 2021; Wong and Zhang, 2021; Mahmut, Guzhan and Korkmaz, 2022). The Global Risk Report issued by the World Economic Forum (2017) reveals that firms face considerable risks, mostly associated with environmental and social concerns. These risks include extreme weather events, water scarcity, natural disasters, and inadequacies in addressing and adjusting to climate change. In light of the growing environmental and social concerns, it is crucial to acknowledge the significance of governance in addressing these challenges. This includes enhancing internal controls and cultural monitoring to effectively manage risks. Therefore, we suspect the higher ESG risk leads to a fall in the company's value.

This research's second contribution is to include materiality disclosure in the relationship between ESG risk and company value. When it comes to disclosing ESG, materiality is one of the most important principles for companies. Companies can use this approach to identify and select topics for sustainability reports that meet the expectations and requirements of all stakeholders. This requirement must be thoroughly evaluated. The report should encompass elements that accurately portray the company's significant financial, ecological, and societal effects (Global Reporting Initiative Standards, 2016). The concept of materiality is essential in the realm of non-financial information. Establishing robust standards for non-financial

information, typically optional, is crucial to help organisations determine which subjects to disclose and the appropriate level of specificity to use. For this reason, doing a materiality analysis and making a materiality matrix are necessary to find the relevant topics and pick out the most important ones that need more attention in the report (Torelli, Balluchi and Furlotti, 2020).

There is still room for improvement in materiality research, particularly in analysing the impact of materiality assessments on companies. According to Font et al. (2016), doing an assessment of materiality is essential for prioritising issues and developing long-term objectives. This analysis enables an integrated approach to designing sustainability strategies and reporting, as emphasised by Pfitzer et al. (2013). According to Calabrese et al. (2015), a major issue in CSR reporting is the lack of comprehensive coverage of all important issues from the viewpoint of stakeholders. Cahan et al. (2016) and Calabrese et al. (2015) also highlight this concern. Therefore, we expect the materiality information to mitigate the adverse effects of ESG risk on company value. From a methodological perspective, we expect materiality in this research to serve as a contextual variable that can resolve the inconclusive relationship between ESG risk and company value.

We present this article in five parts. First, it elucidates the significance of the research subject. The second section summarises the literature and explains ESG risks, company value, and materiality in sustainability reports. The third section provides a detailed explanation of the research methodology, including the empirical model and variable measurements. Next, it presents the observed data and engages in a discussion of the findings. The last section provides a summary and highlights some of the research's implications.

2 LITERATURE REVIEW

Investors know that allocating capital and resources to mitigate environmental and social risks can enhance securities' market value and reputation (Cohen, 2023b). Sustainability typically refers to public-facing environmental, social, and corporate governance (ESG) challenges. Corporate sustainability is crucial to the long-term success of the organisation (Eccles *et al.*, 2012; Sahut, Peris-Ortiz and Teulon, 2019). While many scholars concentrate on corporate sustainability initiatives and models, only some try to record how sustainability risk affects financial markets. Risks related to sustainability include a wide range of topics (e.g., human rights, harmful product sales, subcontractors' working conditions, and climate change), the improper handling of which can have detrimental effects on businesses, investors, and stakeholders (Anderson, 2006; Novethic Research, 2014; Younas and Zafar, 2019). Sustainability risks frequently arise from the interconnectedness of sustainable development's environmental, social, and economic dimensions.

Environmental, social, and governance risks together make up ESG risk. People often question whether ESG concerns diminish a company's value. Unquestionably, serious or unlawful ESG issues, such as human rights abuses,

workplace accidents, waste management challenges, and pollution problems, have a detrimental impact on the company's worth. Considering that the company must not only face severe penalties but also provide compensation for the resulting harm.

There are two approaches to explaining how ESG risks can influence company value. First, approach the company's reputation. While ESG issues may not have immediate consequences, they consistently cause significant harm to a company's reputation, thereby diminishing its value. Corporate reputation helps companies show how their products, services, work, and strategies differ from those of their competitors (Esenyel, 2020). The company's moral standing is one of the fundamental elements of its reputation. According to Hales (2018), several businesses have suffered significant reputational harm from ESG issues, which has led to client boycotts, income losses, and even insolvency. According to Deloitte (2014), Elsbach and Kramer (1996), and McDonnell and King (2013), organizations with a damaged ESG (Environmental, Social, and Governance) reputation are likely to take steps to restore confidence among stakeholders and effectively address ESG-related risks. If a company has a high ESG risk, especially if it faces consequences from ESG-related actions, it may jeopardize its reputation among investors and stakeholders. In the end, the market value of the company will drop. ESG-related reputation risks, also referred to as ESG risks, refer to the potential for a company's value to decline due to a negative reputation resulting from its handling of ESG elements.

The second method is known as the risk portfolio approach. Investor portfolio calculations incorporate ESG risks into their decision-making process. Multiple studies indicate that portfolios consisting of companies with better responsible performance exhibit a reduced level of market risk, resulting in reduced volatility (Albuquerque, Koskinen and Zhang, 2019; He *et al.*, 2022; López Prol and Kim, 2022). Becchetti et al. (2018) established the social and environmental risk factors to account for extraneous components of systematic risk. Unreliable actions by corporations might cause analysts to make more significant errors in their predictions of earnings, which adds to the overall uncertainty (Ajinkya, Bhojraj and Sengupta, 2005; Chaney, Faccio and Parsley, 2011). Lioui et al. (2018) showed two CSR risk factors based on an average of positive behaviour (strengths) and an average of negative behaviour (concerns). They found that the market consistently assessed the CSR risk factor based on concerns. To determine the premium price for shares in controversial industries or those with ESG risks, Luo and Balvers (2017) introduced a boycott risk factor. This research establishes the first hypothesis based on the two approaches explained.

H1: The higher the ESG risk, the more damaging the company's market value

Regarding ESG risks, many companies identify sustainability challenges as strategically significant. More and more investors are committing to integrating environmental, social, and governance (ESG) data into investment decision-

making. Businesses disseminate a plethora of ESG data in diverse formats, but it's crucial to identify the information that can captivate investors (Khan, Serafeim and Yoon, 2016). Materiality is one of the concepts and sets of guidelines that assist in the development and substance of sustainability reports. The process of identifying materiality is of the utmost importance and intricacy. After determining materiality, companies can select and include specific topics in their sustainability reporting. Capital markets acknowledge and analyse the materiality of various socio-environmental issues, and they understand that materiality varies by industry. For instance, when stakeholders closely monitor environmental and community-focused ESG activities, corporations engaged in extensive mineral extraction in the oil and gas industry may be more inclined to participate (Hawn and Ioannou, 2016); similarly, organizations operating in areas that rely heavily on advanced technology and expertise, categories of corporate social responsibility (CSR) connected to employees may be regarded as more crucial and necessitate greater focus. Khan et al. (2016) demonstrate that organizations that receive favourable evaluations on material sustainability concerns have a substantial performance advantage over companies that receive unfavourable ratings on material issues. However, companies that have favourable ratings on immaterial sustainability matters do not exhibit a considerable advantage over enterprises with unfavourable ratings on the same matters. Companies can enhance their financial and market performance by satisfying expectations, comprehending material challenges, and minimising risks, creating opportunities, and fostering good relationships with stakeholders (Indrawati et al., 2023).

In sustainability reports, no previous research has combined ESG risks and materiality assessment disclosures with the company's market value. When high ESG risks put negative pressure on market value, materiality disclosure will likely reduce this impact. According to the Global Reporting Initiative (2021), materiality is at the core of the Sustainability Report, which involves providing information on important aspects of achieving sustainability goals and impacts on the environment and society (Mio, Fasan and Costantini, 2020). In order to prioritise factors that are of higher importance to all stakeholders, a materiality study is necessary. This analysis involves categorising issues from least important to most crucial (Whitehead, 2017). In brief, materiality assessment starts with identifying triple bottom-line features and subjects, applying sustainability principles, and involving stakeholders (Messier, Martinov-Bennie and Eilifsen, 2005). Secondly, it is important to establish priorities based on the concepts of materialism and stakeholder inclusivity. The materialism matrix typically depicts and demonstrates these concepts clearly (Global Reporting Initiative Standards 2016; Murninghan and Grant, 2013). Therefore, disclosing materiality assessments in sustainability reporting can help investors analyse and identify a company's potential when there is a high ESG risk.

H2: Disclosure of materiality in the sustainability report weakens the negative effect of ESG risk on the company's market value.

3 METHODOLOGY

We collected a sample of companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2022 research period. The main objective of this research is to examine the impact of ESG risk on company market value and analyse the role of SR materiality disclosure in the relationship between the two. Therefore, the researchers determined the sample based on several criteria. The first criteria include all non-financial companies listed on the Indonesian capital market between 2020 and 2022. Second, have a risk rating based on the Sustainalytics (2021) database. Thirdly, it's crucial to consistently publish sustainability reports and ensure there is no equity deficit during the research period. Finally, ensure that you have all the necessary data for the research. We obtained a total sample of 204 firm-year observations based on the specified criteria.

3.1 Definition and Measurement Variables

The research focuses on analysing firm value as a dependent variable. Considering the availability and completeness of data and utilising existing literature practices, this research measures company value (FV) based on the market-to-book value. Company value reflects the level of investor confidence in the company's worth. Next, this research's independent variable is ESG risk. The ESG risk score from Sustainalytics (2021) quantifies a company's susceptibility to significant and industry-specific ESG risks and its ability to effectively mitigate these risks. The higher the ESG score indicates, the higher the company's risk. The moderating variable in this research is the disclosure of materiality in the sustainability report. The content analysis of sustainability reports yields the score of materiality disclosure (Farooq et al., 2021). The assessment matrix determines the materiality disclosure level score, with a scoring range of 0–5 based on predetermined criteria. If the materiality assessment does not include any references, give it a '0'. If the corporation claims to have performed a materiality assessment but fails to disclose the specific actions taken, score '1'. If the corporation fails to provide sufficient information about the steps performed in the materiality assessment, such as comments or brief descriptions, it should receive a score of '2'. However, the sustainability report does not provide users with a materiality matrix. Users of sustainability reports receive a score of '3' if they receive limited information about the materiality assessment steps, such as comments or brief descriptions, and receive a materiality matrix. Score '4' if comprehensive disclosure is provided for the materiality assessment steps in the form of a complete explanation of how each step is carried out, but no materiality matrix is provided. Score '5' if comprehensive disclosure is provided for the materiality assessment steps in the form of a complete explanation of how each step is carried out and a materiality matrix is provided. This study controls several variables to reduce the estimation bias caused by omitted variables. The control variables include firm performance as measured by return on sales, debt-to-equity ratio, and size.

Table 1 – Variable and Measurement

Variable Name	Measurement
Firm Value (FV)	Market-to-book ratio is calculated by comparing the share value and the company's equity value.
ESGRisk	Company scores related to ESG are obtained from sustainalytics. Score 0 – 100. The higher the score, the riskier it is (Sustainalytics, 2021).
Materiality Disclosure (MDisc)	Quality of materiality disclosure in sustainability reports. Measured by Content analysis, score 0-5 based on criteria (Farooq et al., 2021).
Return on Sales (ROS)	ROS = Income / Sales
Debt to Equity ratio (DER)	DER = Total Liability / Total Equity
Size	Log total sales

3.2 Research Model

Hypothesis testing in this research uses a moderated regression analysis (MRA) model. Following Sharma et al. (1981), the regression process is carried out in stages. To test both hypotheses in this research model, follow a logical progression using the MRA approach, which involves three-stage testing. Begin with equation (1) to test hypothesis 1. Then, equation (2) is necessary for comparing the outcome of the moderator variable in equation (3) when β_3 is a significant interaction. If β_2MDisc in equations (2) and (3) is significant, then it shows a quasi-moderator variable model. Conversely, if β_2MDisc in equation (2) is not significant, but it is significant in equation (3), and β_3 is significant, then the pure moderator variable models apply.

$$FV_{it} = \alpha+\beta_1 ESGrisk_{it} +\beta_2 ROS_{it}+\beta_3 DER_{it}+\beta_4 SIZE_{it}+ \varepsilon \quad (1)$$

$$FV_{it} = \alpha+\beta_1 ESGrisk_{it} + \beta_2 MDisc_{it}+\beta_3 ROS_{it}+\beta_4 DER_{it}+ {}_t+\beta_5 SIZE_{it} + \varepsilon \quad (2)$$

$$FV_{it}=\alpha+\beta_1 ESGrisk_{it}+\beta_2 MDisc_{it}+\beta_3 ESGRisk_{it}*MDisc_{it}+\beta_4 ROS_{itt}+\beta_5 DER_{it} +\beta_6 SIZE_{it} + \varepsilon \quad (3)$$

Where, Firm value (FV) is market-to-book value. ESG risk is an environmental, social, and governance risk score from sustainability. MDisc is a disclosure of materiality in the sustainability report – the ratio of income and sales measures ROS. DER is a comparison of total debt and equity. SALES is total sales during year t. Furthermore, we also conducted additional analysis. Samples will be re-categorized based on total sales.

4 RESULTS AND DISCUSSION

This section begins with descriptive analysis and regression testing results from the full sample data. Table 2 presents descriptive statistics for the dependent, independent, moderating, and control variables in the regression model. The

maximum and minimum ESG risk values are 56.1 and 11.45, respectively. According to the sustainable ESG risk level category, the maximum value falls into the 'severe' category, signifying a negative impact on the environment and society and significant risks for the company. On the other hand, the minimum value is in the 'low' category, which means it has a low impact on the environment and society, posing little risk to the company. According to the market-to-book ratio, FV has an average value of 3.1657. The average value for materiality disclosure (MDisc) is 3.1225. This means that, on average, the research sample only gives short comments or descriptions on the steps of the materiality assessment. There is also a materiality matrix. ROS has a maximum and minimum value of 2.9633 and -0.5865, respectively. The debt-to-equity ratio has an average of 2.3015.

Table 2 – Descriptive statistics

	N	Mean	Maximum	Minimum	Std. Dev.
FV	204	3.1657	56.7919	0.1915	6.5011
ESGRisk	204	31.2596	56.1000	11.4500	8.7932
MDisc	204	3.1225	5.0000	0.0000	1.4854
ROS	204	0.1510	2.9633	-0.5865	0.3758
DER	204	2.3015	24.8489	0.0661	3.1336
SIZE	204	27.8712	33.33939	0.0000	3.7413

Table 3 shows the results of the research model's hypothesis testing. Columns (1)–(3) are the empirical results of a full sample test. The column (sales>0) is an additional analysis that enters only samples with sales or, in other words, extracts data from samples whose sales values are zero. The F-test results indicated a five percent significance for all models, thereby confirming the validity of the research. The adjusted r-square values in the sequence are 0.0311, 0.0041, and 0.0421. Hypothesis 1 is not rejected, as indicated by columns (1), (2), and (3). Column (1) shows ESGRisk has a negative coefficient of 0.1656 and a significance of less than one percent ($p<0.01$). These results were consistent for all models. ESG risks harm the company's value. The higher the ESGRisk value, the lower the market-to-book value. Furthermore, material disclosures harm the company's value. Column (2) shows that MDisc has a negative coefficient of 0.5416 with a significance of less than five percent ($p<0.05$), indicating that materiality disclosure harms the company's value. Further, column (3) shows a positive ESGRisk*MDisc coefficient of 0.0462 and is not significant ($p > 0.05$). The interaction between ESGRisk and MDisc has no significant impact on corporate value. In conditions when the interaction does not significantly influence the dependent variable, researchers can conduct model analysis on homogeneous subgroups to increase the moderator variable's predictive ability (Sharma et al., 1981). We apply this treatment to the additional analysis section in the sub-sample column of Table 3. However, in an additional analysis, we eliminated a sample of companies that

recorded sales equal to zero. Column (3a and 3b) shows that ESGRisk*MDisc has a positive coefficient of 0.0845 with a significance of less than five percent ($p<0.05$). Therefore, disclosure of materiality on the sustainability report moderates the influence of ESG risk on the firm value; hypothesis 2 was not rejected.

Furthermore, the influence of ROS, DER, and SIZE, which are controlling variables, is also presented in Table 3. ROS has a negative influence on market value. Although companies may generate high sales, low operational efficiency can lead to higher costs and lower profit margins. Markets may view this as a sign of less effective management or a less sustainable business model. DER harms the company's value. High debt increases the company's financial risk because it has to meet its obligations to pay interest and debt regularly. If the company is experiencing a decline in revenue or cash flows, these debt obligations can be a heavy burden and increase the risk of bankruptcy. Investors are usually more cautious about companies with high debt ratios because they see it as a sign of increased risk. Investors may demand higher returns to offset additional risk, which can squeeze the stock price and lower the company's market value (Vo and Ellis, 2017). SIZE has proved to have a significant favorable influence on the company's value. Large firms have economics and flexibility compared to small firms, so getting loans that can increase profitability is easier. The size of a small company is considered to influence the value of the company because the larger the size or scale of the company, the easier it will be for the company to obtain a source of funding.

Table 3 – Results

Variable	Full Sample			Sub-sample Sales > 0	
	(1)	(2)	(3)	(3a) Least Squares Estimator	(3b) Robust Least Squares (s-estimator)
C	8.4560***	9.4143***	13.9502***	-14.0227	1.2332
	(4.8399)	(5.1628)	(3.1545)	(-0.9467)	(0.5547)
ESGRisk	-0.1656***	-0.1431***	-0.2987**	-0.4750***	-1.1193**
		(-2.6991)	(-2.0181)	(-3.1447)	(-2.1536)
MDisc		-0.5416**	-1.9536*	-2.8436**	-0.8879**
		(-1.7400)	(-1.5117)	(-2.1624)	(-1.7656)
ESGRisk*MDisc			0.0462	0.0845**	0.2787**
			(1.1256)	(2.0248)	(1.8780)
ROS	-0.8685	-0.6230	-0.5894	0.4857	-0.8410**
	(-0.7021)	(-0.5029)	(-0.4759)	0.3872	(-4.1481)
DER	-0.0323	-0.0310	0.0020	0.3653**	-0.1778**

Variable	Full Sample			Sub-sample Sales > 0	
	(1)	(2)	(3)	(3a) Least Squares Estimator	(3b) Robust Least Squares (s-estimator)
	(-0.2156)	(-0.2076)	(0.0135)	(1.6801)	(-3.2748)
SIZE	4.24E-15	3.80E-15	4.08E-15	1.0414**	0.1162**
	(0.3448)	(0.3099)	(0.3330)	(2.1386)	(2.0358)
n	204	204	204	161	161
Adj. R^2	0.0311	0.0041	0.0421	0.0916	0.0570
F stat.	2.6293**	2.7304**	2.4896**	3.6914***	

***sig.<0.01, **sig.<0.05, *sig.<0.1

Our addition procedure for robust least squares on equation 3 consistently produces robust results (column 3a and 3b). Robust least squares with s-estimation are crucial in regression analysis, mainly when outliers or abnormal data distribution are present. The regression of the main component of a robust s-estimator is a crucial strategy to address the problem of multicollinearity in double linear regression Ordinary Least. By utilizing this method, we can construct models that are more resistant to unclean data, thereby significantly improving the reliability of interpretation and prediction of analysis. The estimates we derive are a solution with the smallest possible residual spread, effectively minimizing residual variance (Rousseeuw and Yohai, 1984). In Table 3, the rightmost column shows results consistent with other models, thus concluding robust results.

5 DISCUSSION

Empirical results show that ESG risks are consistently dangerous for company value in the eyes of investors. As a company's ESG risk increases, its market value decreases. These results align with research (Cohen, 2023b), showing empirical evidence that corporate environmental and social risk negatively correlates with excess stock returns. We determine the ESG Risk Rating Score by adding the unmanaged risk scores of each significant ESG issue (Sustainalytics, 2021). High ESG risk means that there are more social and environmental risks that company management cannot fully manage. The emergence of social, environmental, and corporate governance issues is another consequence of ESG risk. Significant environmental, social, and governance (ESG) concerns, such as abuses of human rights, workplace accidents, waste management issues, pollution problems, or fraudulent activities, have a detrimental impact on the overall value of a firm (Gloßner, 2017). They remember that the company must compensate for the damage caused and pay heavy fines. On the other hand, even though ESG issues

do not directly impact the company, they always cause significant losses to its reputation and ultimately harm its value.

These results validate the market's (investors') assessment of ESG risks. Investors no longer only focus on financial factors in their decision-making; they also consider social and environmental aspects. Environmental, social, and governance (ESG) risks significantly impact company value. These risks have become the focus of attention for companies and investors because they understand that a business's long-term performance and sustainability depend not only on financial factors but also on how companies manage their impact on the environment, society, and corporate governance. The utilisation of natural resources not aligned with production operations gives rise to ESG issues, which can lead to environmental contamination, bribery, corruption, and violations of business ethics (Aziz, Manab and Othman, 2016a, 2016b). Companies should prioritise understanding the implementation of environmental, social, and governance (ESG) practices in their company operations. This will allow them to mitigate ESG risks, improve their overall performance, and assist investors in making informed investment decisions. Research on the relationship between ESG performance and corporate value, as well as prior references, are enhanced by the findings of studies on ESG risk and value. Businesses can boost performance and value if they operate well in social and environmental domains (Eriandani and Winarno, 2023).

The second hypothesis was proven when research samples were selected only for those with more than zero sales. As far as the researchers know, no articles investigate and disclose the materiality of sustainability reports, ESG risks, and firm value. Disclosure of materiality in sustainability reports suppresses the detrimental impact of ESG risk on the firm value. Traditionally, materiality is determined based on the perspective of financial reporting. They are developing a broader definition that covers the disclosure of risks and opportunities related to sustainability concerns like global warming, human rights, and management responsibility. Furthermore, materiality disclosure also covers a more extended period to measure the impact on company performance, significant uncertainty about results, and a more expansive public view (Murninghan and Grant, 2013). Substantive disclosure in sustainability refers to a company's efforts to identify, evaluate, and communicate ESG issues that significantly impact its stakeholders. The disclosure of materiality allows companies to communicate transparently about managing material ESG issues. It boosts the confidence of stakeholders, including investors, customers, and employees, and underscores their integral role in the sustainability journey. Companies that openly acknowledge and manage ESG risks build trust and demonstrate their accountability to stakeholders. Companies that manage ESG risk effectively and transparently can build positive and brand value. Investors and consumers tend to support companies committed to sustainable business practices. The company's value will rise up when the ESG risk is high but accompanied by adequate materiality disclosure.

The GRI guidelines emphasise the importance of materiality in the context of sustainability reporting (SR), which involves providing information on important

aspects for achieving sustainability goals and impacts on our planet and people. A materiality investigation is necessary, which implies that these elements should be at intervals from less important to more critical and identify aspects that have a greater impact for stakeholders (Whitehead, 2017). The more comprehensive disclosure of materiality in the sustainability report shows that management has identified ESG risks and potential so that when the ESG risk score is high, investors understand it, and the company's value can increase.

6 CONCLUSION

Changes in business models and changes in the environmental climate have pushed sustainability to become a topic of most significant concern to companies. Investors prioritise ESG aspects when considering the influence of sustainability on the stock market and portfolio development. They prefer investing in companies that are conscious of these challenges and prepared to allocate resources to mitigate their sustainability risks. Our study confirms the hypothesis that ESG risks hurt firm value. A high ESG risk score signifies that the company's value is deemed to have a significant risk of experiencing substantial financial consequences due to ESG variables. Furthermore, materiality disclosure in sustainability reports can reduce the adverse effects of risk on company value.

This research has several limitations and suggestions for improvement. First, it does not differentiate between types of industry. Future research can classify industries into sensitive and non-sensitive industries. Second, measuring materiality in sustainability reports relies on content analysis, so subjectivity is possible. Future research can use proxies from the latest sustainability reporting standards. Finally, future research could add measures of firm value.

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- Management of Technology and Innovation
- Strategy and Management

PUBLISHER

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2012-2024

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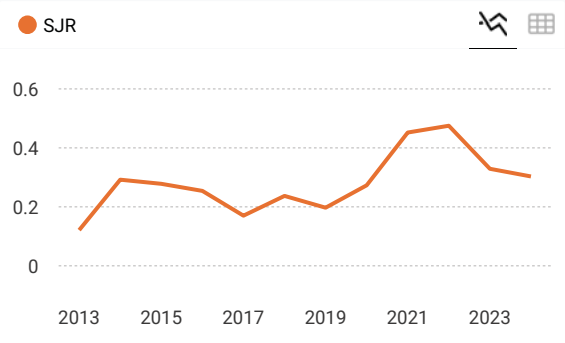
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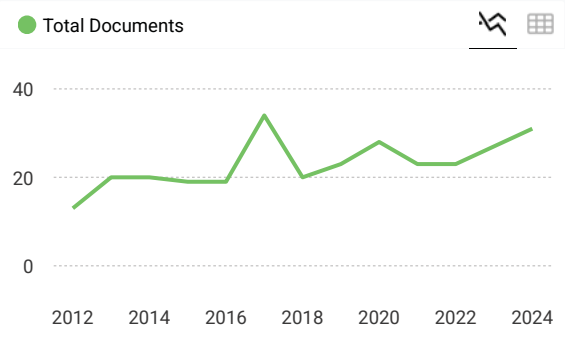
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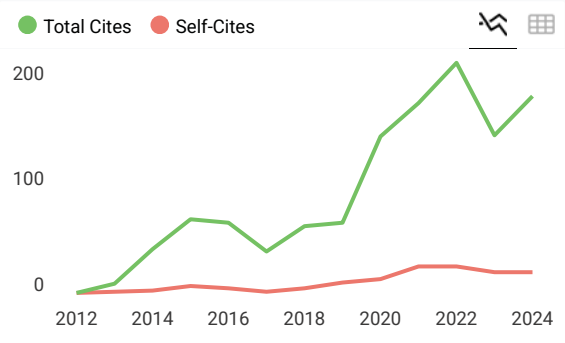
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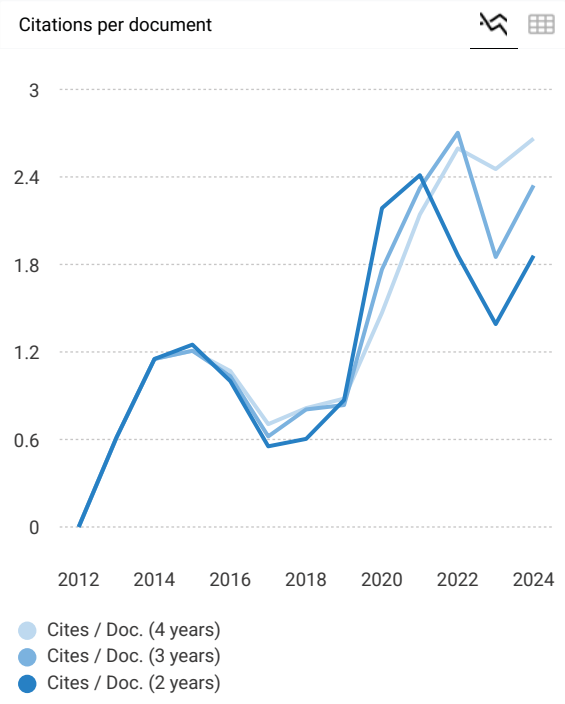
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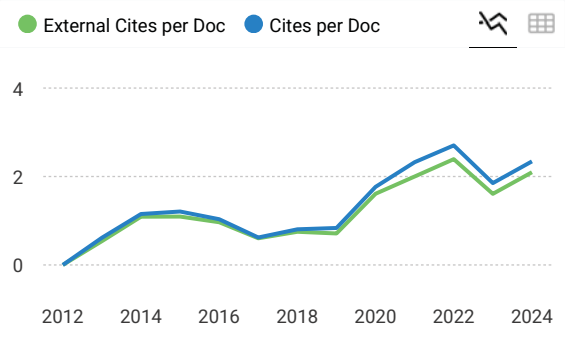
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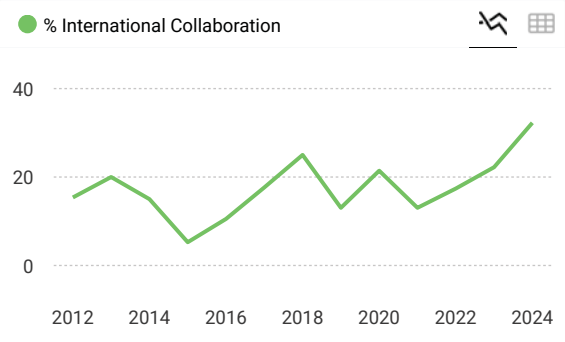
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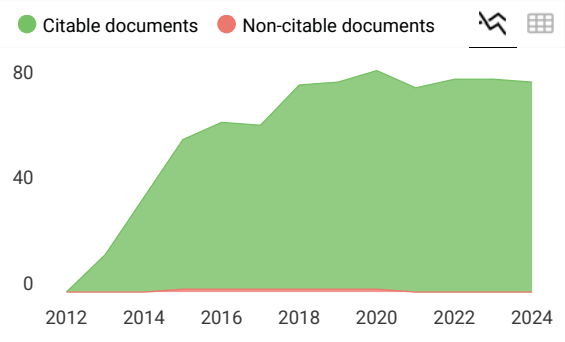
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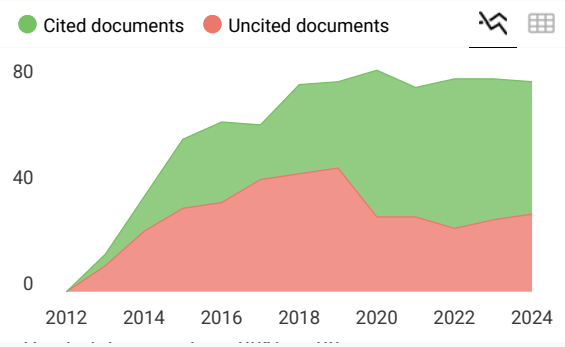
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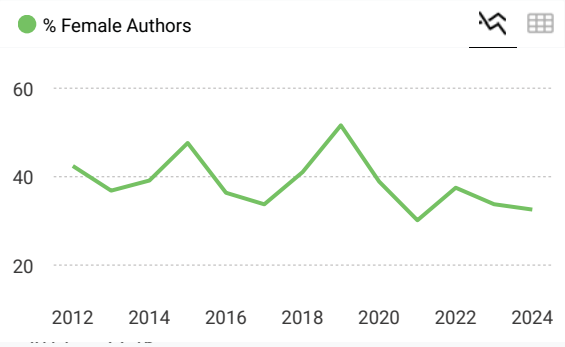
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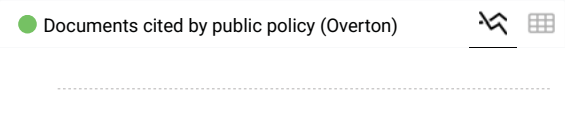
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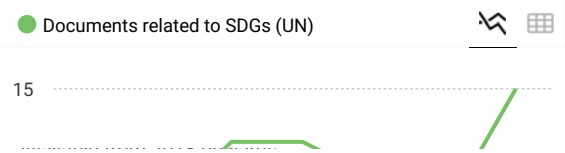
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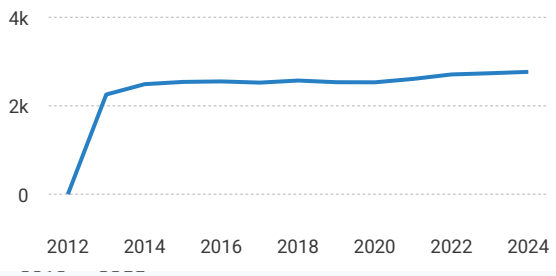

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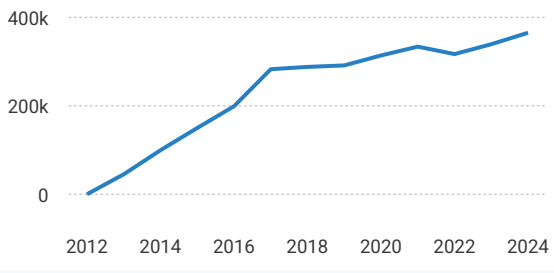

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