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## Impacts of Sustainability Performance and Firm Characteristics on Risk and Corporate Value

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### Abstract

This research investigates the effect of sustainability performance and firm characteristics on risk and corporate value by applying a structural equation model. The focus of the analysis is on Indonesian companies that received sustainability ratings continuously from the Asia Sustainability Reporting Award during the 2018-2019 period. The process involved analyzing secondary data presented in annual and sustainability reports to obtain relevant content for corporate sustainability performance. The findings showed that the improvement of the sustainability performance was able to significantly reduce corporate risk but did not have any influence on corporate value. It was also discovered that large companies with political connections face increased risk, thereby, limiting their ability to enhance corporate value significantly. Moreover, the incorporation of sustainability investment strategies was observed to require business risk management to reduce future environmental and social risks associated with long-term corporate value creation.

**Keywords:** sustainability performance, risk, firm value

## Dampak Kinerja Keberlanjutan dan Karakteristik Perusahaan Terhadap Risiko dan Nilai Perusahaan

### Abstrak

Penelitian ini mengkaji pengaruh kinerja keberlanjutan dan karakteristik perusahaan terhadap risiko dan nilai perusahaan. Analisis model struktural digunakan untuk menguji perusahaan Indonesia yang secara konsisten menerima peringkat keberlanjutan dari Asia Sustainability Reporting Award pada tahun 2018-2019. Data sekunder berupa laporan tahunan dan laporan keberlanjutan perusahaan dianalisis untuk memperoleh konten yang relevan dengan kinerja keberlanjutan perusahaan. Hasil penelitian menunjukkan bahwa peningkatan kinerja keberlanjutan akan menurunkan risiko perusahaan secara signifikan, namun tidak mempengaruhi peningkatan nilai perusahaan. Perusahaan besar dengan koneksi politik dapat menghadapi peningkatan risiko, namun tidak dapat berkontribusi secara signifikan untuk peningkatan nilai perusahaan. Penggabungan strategi investasi keberlanjutan membutuhkan manajemen risiko bisnis untuk mengurangi risiko lingkungan dan sosial di masa depan untuk penciptaan nilai perusahaan dalam jangka panjang.

**Kata kunci:** kinerja keberlanjutan; risiko, nilai perusahaan

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## INTRODUCTION

Sustainability information associated with Environmental, Social, and Governance (ESG) factors has become increasingly important in corporate reporting. The ESG is a type of corporate information which focuses on the social, economic, and environmental factors

in addition to the financial aspects and is considered a non-financial reporting system that is subjected to management discretion in content and format, thereby, leading to a significant difference in its disclosure between companies (Elzahar, Hussainey, Mazzi, & Tsalavoutas, 2015). It is important to note that the motivation for the implementation of ESG is not only related to its contribution to corporate performance. For example, the investors consider the governance dimension due to its influence on making quality decisions with long-term consequences in relation to environmental and social dimensions (van Duuren, Plantinga, & Scholtens, 2016).

Sustainability, in the context of investment in ESG, is a corporate effort that emphasizes the obligation of an organization to meet the expectations and needs of both internal and external stakeholders (Freeman & Mcvea, 2008). This is necessary due to the importance of involving stakeholders in the efforts to strengthen corporate environmental policies and sustainable development (Lokuwaduge & Heenetigala, 2017) as well as their essential role in promoting the implementation of new value system corporation management which considers environmental, social, and governance aspects in decision-making processes. Moreover, managers are required to incorporate ESG information into a corporate investment strategy related to transparency, sustainability, and accountability (Sakuma-Keck & Hensmans, 2013). This implies ESG is focused on the need for managers to ensure a long-term commitment towards corporate sustainability while being competitive and this can be used as the core strategy of the corporation.

ESG information has recently been the focus of businesses during policy formulation and also for investors in making investment decisions. It is associated with the pressure from corporate stakeholders encouraging companies to adopt long-term policies in addition to those related to ethical business practices. It is, however, important to note that the involvement of corporations in long-term non-financial policies such as ESG, which requires corporate financial investment, has the potential to create a conflict of interest among the stakeholders during the implementation phase because of the inability to measure the performance in the short term. The adoption of sustainability is, therefore, a long-term commitment which involves using appropriate strategies while being competitive in the business environment (Sakuma-Keck & Hensmans, 2013). It has also been reported by McElroy & Engelen (2012) that stakeholders play a significant role in ensuring that the corporation manages, measures, and reports on the corporate sustainability strategy. An example of this is the activities of the government, as a critical stakeholder, in improving social and environmental practices for business and industrial operations in a country through its regulations (Camilleri, 2015).

Several empirical studies have found that the improvement of corporate sustainability strategies such as ESG can improve financial performance (Zhao et al., 2018; Sila & Cek, 2017; Friede, Busch, & Bassen, 2015). These findings highlight the importance of social, environmental, and governance dimensions in influencing corporate economic performance (Sila & Cek, 2017) by implying that ESG plays an essential role in the decision-making processes for investors, management corporations, and industry regulators (Zhao et al., 2018). According to Friede et al. (2015), investment in ESG is

positively related to corporate financial performance and this indicates long-term investment orientation is essential for investors to align their interests and goals with the broader community. Meanwhile, empirical evidence from the banking sector showed that performance does not influence sustainability in banks (Handajani, Akram, & Rifai, 2021). This simply shows that the initiation of sustainability in banks tends to be motivated by the desire to comply with financial sector regulations and fulfill stakeholder interests.

Few studies have linked ESG, which reflects sustainability performance, to the risks being faced by businesses. For example, van Duuren et al. (2016) reported that ESG information had been used to manage corporate risk, thereby, making conventional managers incorporate responsible investment practices. Harjoto & Laksmana (2018) also found that corporate social responsibility performance positively affected firm value due to its ability to reduce excessive and avoid moderate risk. Moreover, business risk management (Banerjee & Gupta, 2017) and previous studies argued that voluntary sustainability practices have a considerable positive effect, particularly in countries pursuing strict environmental protection policies. In the Indonesian context, several companies have disclosed ESG information through corporate communication media including mandatory platforms such as annual reports and voluntary ones such as sustainability reports, CSR reports, and corporate websites. However, the assessment of sustainability performance and quality of ESG reporting remains difficult in practice because they vary significantly across companies and industries. De La Cuesta & Valor (2013) argued that sustainability reporting guidelines such as the Global Reporting Initiative (GRI) focus on reporting formats rather than providing quality, relevant, comparable, complete, and accessible information to all stakeholders.

There is an ongoing debate on the usefulness of ESG for corporate and investor decision-making processes with most studies observed to have examined the impact of ESG on corporate financial performance which is a short-term orientation and the importance of a long-term direction for corporate sustainability. It is important to reiterate that the involvement of corporations in non-financial reporting is considered an unprofitable investment while some believe it has the ability to increase investor relations and minimize risk. It is further argued that sustainability performance that internalizes environmental, social, and governance issues reflects long-term management and corporate ability to overcome business risks. However, there is limited empirical evidence on the relationship between sustainability performance or ESG ratings and an increase in corporate value as a measure of performance as well as its role in overcoming corporate risks, particularly in emerging capital markets such as Indonesia.

This present study intends to fill this research gap observed in relation to the consequences of reporting on sustainability performance. This was achieved through the determination of the impact of sustainability performance on corporations that disclose Environmental, Social, and Governance (ESG) information by controlling firm-specific factors such as political connection, corporate growth, industry characteristics, and firm size. The objectives are to examine the influence of sustainability performance and firm

characteristics on corporate value and corporate risk. This is intended to explain the incentives for the development of sustainability practices in corporate reporting by evaluating Indonesian companies included in the ratings of Asia Sustainability Reporting.

ESG reporting has currently been adopted by companies in different sectors or industries but the existing standards such as the International Integrated Reporting Council (IIRC) framework, the UN (Global Compact), and the Global Reporting Initiative (GRI) framework for non-financial reporting are unable to provide reliable measurements for all companies due to the differences in the characteristics of their industries or sectors (Lokuwaduge & Heenetigala, 2017). This also makes it challenging to compare the performance of ESG reporting between companies (Islam, Kokubu, & Nishitani, 2020). Moreover, the differences observed between business sectors, industry, regions, and countries make it difficult for users of the ESG information such as investors to assess its performance due to inconsistencies as well as insufficient data and information (Sjöström & Welford, 2009). It is also important to note that regulators have a crucial role in ESG reporting with the focus on the guidelines for corporations and evaluation of the compliance. According to Camilleri (2015), regulators have ensured that business corporations in European Union countries write efficient and timely non-financial reports and this is expected to provide long-term benefits to these organizations in terms of operational efficiency and cost-saving of business despite the self-interest motive underlying its implementation in practice. Furthermore, the Indonesian Financial Services Authority has formulated a regulation regarding the implementation of sustainable finance for issuers and public companies in actual practice towards ensuring sustainable principles including social and environmental policies are applied in the financial industry and capital market.

Previous empirical research showed the ability of ESG to reduce corporate risk and improve corporate financial performance but the results vary widely between countries (Chelawat & Trivedi, 2016). Dorfleitner, Halbritter, & Nguyen (2015) studied the relevance of environmental, social, and governance (ESG) reporting on the decision-making process and found that it is important to consider ESG in corporate management to achieve corporate performance and manage risks. Corporate performance was also reported to have a crucial role in the success of strategic policy and long-term sustainability (Chvatalová, Kocmanová, & Dočekalová, 2011). Moreover, Buallay (2019) showed that ESG information significantly influenced operational, financial, and market performance in the banking sector of Europe while Chelawat & Trivedi (2016) reported its ability to enrich financial performance with further implications for investors, management, policymakers, and regulators. Fatemi, Glaum, & Kaiser (2018) also found an increase in the power of ESG to have led to an increment in corporate value and vice versa while Chvatalová et al. (2011) further intensifies the argument by showing that corporate performance is very important to the formulation of corporate strategic policies and long-term sustainability success. Furthermore, Chong, Ong, & Tan (2018) emphasized the need for the involvement of companies in sustainable development to maximize corporate value. Friede et al. (2015) studied more than 2.200 individual

research findings and concluded that the investment of businesses in ESG is reasonable due to its ability to positively influence financial performance. This, therefore, signifies sustainability performance reflected through the involvement of corporations in environmental, social, and governance (ESG) activities can affect corporate performance, short-term financial performance, and long-term corporate value. These arguments led to the formulation of the following hypothesis:

**H<sub>1</sub>:** Sustainability performance affects corporate value.

There is limited empirical evidence on the impact of sustainability performance on corporate risk as indicated by the findings of Chong et al. (2018) that there was no significant influence of sustainability practices on corporate risk. Meanwhile, corporate involvement in sustainability practices can improve corporate performance at a lower risk as reported by Harjoto & Laksmana (2018) that corporate social responsibility performance can reduce excessive and avoid business risks. Diemont, Moore, & Soppe (2016) also argued that corporate social responsibility is significantly correlated with the risk of loss while van Duuren et al. (2016) showed that conventional managers have integrated responsible investment practices and this also reflects the ability of ESG information to manage corporate risk. Moreover, Hoepner, Oikonomou, Sautner, Starks, & Zhou (2020) found that corporate involvement in environmental, social, and governance issues reduced risk (downsize risk), particularly in relation to the environmental aspects. Banerjee & Gupta (2017) also reported that voluntary sustainability practices have a significant impact on business risk management, especially in countries with strict environmental protection policies. This denotes it is possible to argue that the sustainability performance of companies that have adopted ESG has an influence on the risks they face and this led to the formulation of the following hypothesis:

**H<sub>2</sub>:** Sustainability performance affects corporate risk

Contextual factors can influence the ESG reporting strategy to be adopted by corporations as indicated by the findings of Atan, Razali, Said, & Zainun (2016) when conducting a comparative study on ESG disclosure on 100 companies listed on the Malaysian and Danish Stock Exchanges with different regulations. The study showed that the role of regulators in formulating ESG-related policies has a significant effect on capital markets against the level of ESG disclosure and this denotes regulatory pressure can attract socially responsible investors. Camilleri (2015) also showed that government policies and regulations on ESG disclosure have prompted European Union countries to revise several methods and instruments for financial and non-financial reporting as well as several other information such as energy efficiency, pollution, and other controversial matters. According to Yoon, Lee, & Byun (2018), Korean firms' sustainability rating (ESG) significantly influences the market value but the impact varies based on business characteristics such as industry sensitivity and governance. Moreover, during the process of emphasizing the importance of firm characteristics, Buallay (2019) studied companies in Europe and found the significant positive effect of ESG on bank performance but the impact varies depending on bank specifications and macroeconomic aspects. This argument is in line with the findings of Friede et al. (2015) that the positive impact of ESG

on corporate financial performance remains consistent after it was tested by different portfolio or non-portfolio corporate assets, which implicitly describes the industry type of corporations.

Firm size is a corporate contextual factor showing the corporate economic capability generally measured using the total assets owned by a corporation. Previous studies on the effect of firm size on corporate value have provided inconclusive results as indicated by the findings of Natsir & Yusbardini (2020) that firm size has a significant effect on firm value proxied by the ratio of market price to the market book value. This was further supported by a recent study that firm size affects profitability and corporate value, thereby, reflecting the corporate management's ability to optimize the management of its assets (Nursetya & Hidayati, 2021). Meanwhile, a contrary result showed that firm size did not have any substantial influence on the value of firms in the financial, industrial, and service sectors (Gengatharan, 2020), and this was also supported by the findings of Agustin, Dzulkirom, & Darmawan (2019) which showed an insignificant effect of firm size on stock returns as a proxy for firm value while studying Indonesian manufacturing companies in the consumption sector.

The influence of growth and corporate political connectedness on corporate value has also been studied and Le Thi Kim, Duvernay, & Le Thanh (2021) found growth in sales to have a significant effect on financial performance proxied by return on equity or return on sales in listed manufacturing companies in Vietnam. Meanwhile, Nugroho & Halik (2021) found that growth did not directly affect firm value. presented a contrary result that growth did not have any direct effect on firm value and similar finding of Oktaviani (2020) that firm growth and size did not affect firm values in companies listed on the IDX for 2014-2018. Jiang (2008) also studied the companies listed on the Tunisian Stock Exchange for 2012-2014 and found the advantages and benefits of having a political relationship on corporate management to increase corporate value, financial performance, and market value. These arguments show that corporate political ties can influence investors to invest in politically connected companies for profit. This indicates there is a possible effect of firm characteristics on corporate value and this further leads to the formulation of the following hypothesis:

**H<sub>3</sub>:** Firm characteristics affect corporate value

The relationship between the firm characteristics and risks faced has also been studied with different results. Khelif & Hussainey (2016) showed that the type of industry affected risk disclosure with large companies discovered to have a higher tendency of showing tighter public visibility from their stakeholders. Meanwhile, corporate risk disclosure usually assists in evaluating litigation and adverse reputation risks and this is supported by the findings of Madrigal, Guzmán, & Guzmán (2015) that sector characteristics affected broader corporate risk disclosure due to the demands of regulators to make companies more transparent based on the study conducted on Spain companies. The analysis of the annual reports of Malaysian corporations by Amran, Manaf Rosli Bin, & Che Haat Mohd (2009) showed a significant relationship between firm size and corporate risk management practices. This is also in line with the results of Alshirah,

Abdul Rahman, Mustapa, & Alshira'h (2020) on companies in Jordan that large companies and industrial-type companies tend to disclose broader risk information. The same argument was also established in Soebyakto, Mukhtaruddin, Relasari, & Sinulingga (2018) after analyzing the manufacturing companies listed on the Indonesia Stock Exchange (IDX) 2010–2012 and found that firm size significantly affected risk management disclosure measured by financial, operational, power, processing, integrity, and strategic risks.

Different studies have also examined corporate growth and the associated risks and it was discovered that those experiencing growth usually have an increased financial risk due to external resources utilized for operational funding needs. Meanwhile, Ali, Liu, & Su (2018) examined 1086 non-financial companies from 2001 to 2012 and found that companies with growth opportunities and good governance were able to reduced default risk. It was also argued that those experiencing growth and getting opportunities to improve economic performance need to manage risks during the process of making business decisions. Moreover, Mirza, Safdar, Yu, & Gulzar (2019) indicated the existing relationship between politically connected firms and risk by showing that directors of companies with political ties tend to make decisions on risky projects because of the corporate management's ability to monitor internal and external resources. A congruent argument also stated that corporate risk-taking is more related to government affiliation and executive incentives than a strategic choice to maximize firm value (Ding, Jia, Qu, & Wu, 2015).

Ariefianto & Soepomo (2013) studied the risk-taking behavior of Indonesian state banks when capital increased and found that larger banks have a risk-averse behavior compared to smaller banks. This was supported by the findings of Chong et al. (2018) that political connection needs to be considered in making investment decisions because politically connected companies tend to take risks and lower performance to achieve a political and social agenda. This implies firm characteristics can reflect contextual factors such as type of industry, firm size, sales growth, political connection, and regulatory pressures. Therefore, it is important to determine the effects of these attributes on corporate risk in the process of analyzing corporate sustainability practice and this led to the formulation of the following hypothesis:

**H<sub>4</sub>:** Firm characteristics affect corporate risk

## **METHOD**

A quantitative descriptive approach was used in this study to describe the sustainability reporting of Indonesian corporations included in the Asia Sustainability Rating and its subsequent impact on risk and corporate value. Secondary data sources such as annual and sustainability reports were used to obtain relevant information on sustainability reporting for the observation period of 2018 and 2019.

The sustainability performance was measured using the predicate of corporate sustainability conducted by the National Center for Sustainability for Reporting (<https://www.ncsr-id.org/>) for companies that have implemented programs related to



environmental, social, and governance (ESG) activities. This study used a sustainability rating which includes (1) Platinum, (2) Gold, (3) Silver, and (4) Bronze in line with the assessment conducted by the National Center for Sustainability Reporting (NCSR) with Platinum used to represent the highest rank while bronze is the lowest. Moreover, the firm value is a combined assessment of a corporation's financial, market, and shareholder performance while the corporate value was determined using operational performance (ROA), financial performance (ROE), and market performance (Tobins' Q) in line with the methods applied in Buallay (2019).

Sustainability risk is an uncertain event, social, or environmental condition with a possible significant negative impact on a company (World Business Council for Sustainable Development, 2017). Corporate risk was, therefore, measured using Total Risk (STD Stock Daily Return), Firm-Specific Risk (STD of the residual of the regression of the daily stock return on daily market return), and Financial Risk (leverage) based on the methods applied in Chong et al. (2018). Moreover, firm characteristics were proxied by firm size, type of industry, sales growth, and political connections (state-owned/non-state-owned enterprise). Mathematically, the structural equation for the inner model used in this study is presented as follows:

$$CV = \gamma_1 SP + \gamma_2 FC + \zeta_1 \dots\dots\dots(1)$$

$$CR = \gamma_1 SP + \gamma_2 FC + \zeta_2 \dots\dots\dots(2)$$

Note:

CV= Corporate Value

SP = Sustainability Performance

CR= Corporate Risk

FC = Firm Characteristic

$\gamma$  = Gamma, the coefficient of the exogen variable to endogen variable

$\zeta$  = Zeta, model error term

The measurement for the outer model is also presented as follows:

$$SP = \lambda_{11}.ESG + e_1$$

$$FC = \lambda_{11}.FS + \lambda_{12}.TI + \lambda_{13}.SG + \lambda_{13}.PC + e_2$$

$$CV = \lambda_{11}.ROA + \lambda_{12}.ROE + \lambda_{13}.TQ + e_3$$

$$CR = \lambda_{11}.FR + \lambda_{12}.FSR + \lambda_{13}.TR + e_4$$

Note:

ESG = ESG Rating

FS = Firm Size

TI = Type of Industry

SG = Sales Growth

PC = Political Connection

ROA = Return on Asset

- ROE = Return on Equity
- Tobin's Q = Market Value
- FR = Financial Risk
- FSR = Firm Specific Risk
- TQ = Total Risk
- $\Lambda$  = Lambda, component loading to indicators
- $\epsilon$  = Epsilon, error measurement

**FINDING AND DISCUSSION**

The results of descriptive statistics for ratio scale indicators such as the maximum, minimum, mean, and standard deviation values to explain the firm size, sales growth, ROA, ROE, Tobin's Q, financial risk, firm-specific risk, and total risk are presented in Table 1 while the frequency distribution table to describe the sustainability performance indicators, industry types, and political connections for the nominal scale is in Table 2.

Table 1 shows that the firm size had a mean value of 16.43 and this implies the firms analyzed are mostly large companies with a high amount of assets. The sales growth was discovered to have a mean value in the range of 10% with a maximum of 99.75% while some companies recorded negative values. Moreover, the average Return on Asset (ROA) was 3.71% and this indicates a reasonably good asset management return while Tobin's Q showed that the corporate market value has a maximum value of 2.79 and a minimum value of 0.7 with an average value of 1.16, thereby, indicating a favorable market sentiment on the corporation prospects. Furthermore, the financial risk variable showed a mean value of 60.36% and this signifies that liabilities are used more than the capital while the firm risk was observed to have an average value of 33.4% and the total risk was 14.98%, thereby, indicating the companies have lower total and financial risks (leverage) that do not deviate from one another.

Table 1. *Descriptive Statistic*

Variable	Minimum	Maximum	Mean	Std. Deviation
Firm Size	6.40	22.80	16.46	4.51
Sales Growth	-23.37	99.75	10.01	23.99
ROA	3.00	18.00	3.71	4.13
Tobin's Q	0.70	2.79	1.15	0.43
Financial Risk	12.64	88.03	60.35	25.75
Total Risk	0.04	0.49	0.1498	0.010
Firm Risk	0.00	0.19	0.334	0.045

The 32 companies tested which represent 21.9% had the highest sustainability performance rating which is classified as a Platinum while the majority, 20 represented by 62.5%, received the second-best rank or Gold. Meanwhile, three companies or 9.4% had silver ranks and two or 6.3% received bronze ratings. It is also important to note that all

the companies used as samples are in both the financial and non-financial sectors with a majority, 75%, discovered to be in the non-financial sectors such as mining and infrastructure while the remaining 25% are financial companies such as banks. The findings also showed that 43.8% are state-owned (SOEs) and politically connected while the others, 56.3%, are non-state-owned (non-SOEs).

Table 2. *Frequency Distribution*

Variables	Category	Frequency	Percentage
Sustainability Performance	Platinum	7	21.9
	Gold	20	62.5
	Silver	3	9.4
	Bronze	2	6.3
Type of Industry	Financial sector	8	25
	Non-financial sector	24	75
Political Connected	Non-SOEs	18	56.3
	SOEs	14	43.8

The measurement model was observed to have met the requirements for convergent and discriminant validity. This is indicated by the fact that all its indicators have a loading factor value greater than 0.5 and this is in line with the criteria that the correlation value is above 0.7 or the loading factor is between 0.4 and 0.7 (Hair, Hult, Ringle, & Sarstedt, 2014). Meanwhile, the analysis of the first phase of the outer model also showed that several indicators such as sales growth and type of industry from endogen variable of firm characteristics and total risk from the risk constructs have loading factors smaller than 0.5 and were dropped. The second phase of the outer model test showed that all indicators have a loading factor higher than 0.5 and met the convergent validity requirements as presented in the following Table 3:

Table 3. *Outer Loading*

Indicator & Construct Relation	Outer Loading
FSR → CR	0.724
FR → CR	0.860
SR → SP	1.000
FS → SP	0.737
PC → FC	0.860
ROA → CV	0.701
TQ → CV	0.905

Discriminant validity was evaluated based on the requirement that the cross-loading correlation value needs to be greater than the correlation to other latent variables while the composite reliability value is required to be higher than 0.7 to be reliable (Hair et al., 2014). The cross-loading value of the targeted variables was observed to be higher than

other variables in the same row while composite reliability values are also greater than 0.7 as indicated in the summarized discriminant validity test results present in Table 4. The fact that all the outer model tests met the requirements led to the analysis through the structural test for the outer model.

Table 4. *Discriminant Validity*

	CR	CV	FC	SP
CR	<b>0.815</b>			
CV	-0.391	<b>0.809</b>		
FC	0.728	-0.308	<b>0.801</b>	
SP	-0.507	0.024	-0.149	<b>1.000</b>
Latent Constructs	Composite Reliability			AVE
SP			1.000	1.000
FC			0.781	0.641
CV			0.789	0.655
CR			0.797	0.644

The measurement model (outer model) was evaluated to determine its predictive ability and the relationship between latent variables. The predictive ability was determined using the coefficient of determination ( $R^2$ ), Effect Size ( $f^2$ ), and Predictive Relevance ( $Q^2$  Value). The coefficient of determination value for the corporate risk endogenous variables was found to be 0.693 or 69.3% while corporate value had 0.095 or 9.5% and this conveys there is a goodness of fit model for the exogenous variables to influence endogenous variables. Moreover, the effect size ( $f^2$ ) value for the exogenous variable of sustainability performance to corporate risk was recorded to be 0.528 and to corporate value was 0.001 while the contribution of corporate characteristics variables to corporate risk was 1.419 and to corporate value was 0.105. Predictive relevance was also used to measure the goodness of fit model that generates the observation value and is said to be fulfilled when the value of  $Q^2$  is greater than 0. It was, therefore, determined in this study using blindfolding analysis to determine the value of cross-validated communality and results showed that the  $Q^2$  value was above zero, thereby, meeting the required criteria. The summary of the results for the goodness of fit model is presented in Table 5.

The structural model test (inner model) was used to determine the relationship between latent or exogenous variables and the results are shown in Table 6. It was discovered that sustainability performance and firm characteristics significantly affected corporate risk as indicated by the statistical T-value which is greater than 1.96 in the two-tailed test.

Meanwhile, the influence of exogenous variables such as firm characteristics and sustainability performance on corporate value was found to be insignificant with a statistical T-value lesser than 1.96. This, therefore, conveys the second and fourth hypotheses which state that corporate risk is significantly affected by sustainability performance and firm characteristics were supported while the first and third hypotheses

related to corporate value were rejected. This shows that sustainability performance and firm characteristics have no significant effect on corporate value.

Table 5. *Goodness of Fit*

Latent Constructs	R Square (R <sup>2</sup> )	Effect Size (f <sup>2</sup> )	Predictive Relevance (Q <sup>2</sup> )
CV	0.095		0.110
CR	0.693		0.086
SP → CV		0.001	
SP → CR		0.528	
FC → CV		0.105	
FC → CR		1.419	

Table 6. *Structural Model Test Results*

Latent Variables	Coefficient	T Statistics	p-Value
SP → CP	-0.015	0.206	0.837
SP → CR	-0.407	3.985	0.000*
FC → CV	-0.290	1.119	0.264
FC → CR	0.689	9.674	0.000*

\*) significantly at  $\alpha$  5% (two-tailed test)

The first hypothesis which states that sustainability performance affects firm value was rejected as indicated by the statistical T-value of 0.206 which is smaller than the T-value of 1.96 at a significance value greater than 0.05. The direction of the negative coefficient reveals that higher sustainability rating performance instead leads to decreased firm value and this is contrary to the position of previous findings that argued for the positive impact of sustainability performance on corporate value. This insignificant finding implies that sustainability performance is a long-term achievement which cannot be assessed in the short term and requires a sufficient period to have an impact on corporate value. This contradicts the results of Buallay (2019) and Chelawat & Trivedi (2016) that sustainability information is very important to the operational, financial, and market performance of companies as well as Fatemi et al. (2018), Chong et al. (2018), and Friede et al. (2015) which showed that an increment in ESG can enhance corporate value. Meanwhile, these findings are consistent with the report of Aggarwal (2013) that sustainability performance has no significant positive effect on corporate financial performance as well as Jha & Rangarajan (2020) that found no significant causal relationship between sustainability performance and corporate performance. This research finding argued that the impact of investing in sustainability can only be measured in the long-term and this means it does not affect accounting financial performance measured through ROA or market performance through Tobin's Q.

The second hypothesis which states that sustainability performance has a significant impact on corporate risk was confirmed as signified by the T statistical value of 3,985 which is greater than the T-count of 1.96. The negative direction of the coefficient

indicates that an increase in sustainability performance rating has the ability to reduce corporate risk and vice versa. Platinum is the highest sustainability rating while bronze is the lowest and this signifies the companies with platinum rating have a better ability to reduce risks while those with bronze have an increased risk. This simply shows that sustainability performance can significantly reduce the risks faced by the corporation and this is in line with the findings of previous studies that corporate social responsibility performance is significantly correlated to the risk of loss, thereby, enabling it to reduce excessive and avoid business risks (Harjoto & Laksmana, 2018; Diemont et al., 2016). It also supports the results of van Duuren et al. (2016), Banerjee & Gupta (2017), and Hoepner et al. (2020) that sustainability practices can improve business risk management. This indicates the incorporation of responsible investment practices usually influences adequate management of corporate risk due to the involvement of the organization in environmental, social, and governance issues designed to reduce risks, especially those related to the environment. It is, however, important to note that the findings contradict the observation of Chong et al. (2018) that there is no significant relationship between sustainability practices and corporate risk despite its ability to improve corporate performance while lowering risk.

The third hypothesis which states that firm characteristics affect corporate value was rejected as evidenced by the statistical T-value of 1.119 which is lesser than the T-value of 1.96. The negative direction of the coefficient also indicates that an increase in the firm characteristics reflected by firm size and political connectedness is expected to cause a reduction in corporate value. This means there is no significant effect of firm characteristics on corporate value and this leads to the argument that large companies need to fulfill several interests of their stakeholders. This is necessary because the inability to establish a relationship with the stakeholder usually has a negative impact on corporate value creation in the long term. Moreover, business firms with connected political ties are more likely to serve the interests of particular stakeholder groups, which can harm the long-term achievement of corporate value. This finding was observed to be contrary to previous studies by Yoon et al. (2018) and Buallay (2019) that sustainability rating has a significant positive effect on the market value of a corporation but this impact varies based on the corporate characteristics such as industry sensitivity, governance, specifications, and macroeconomic factors. It is also against Friede et al. (2015) that discovered the consistent positive effects of sustainability performance (ESG) on the corporate financial performance after testing the different portfolio/non-portfolio corporate assets, corporate bonds, as well as regional and emerging markets. Meanwhile, the results are in line with Saeed, Belghitar, & Clark (2016) that showed the existence of a negative relationship between companies with political ties and corporate performance measured by profitability and growth as well as the study of Gengatharan (2020) and Agustin et al. (2019) that found an insignificant impact of firm size on corporate value. It was, therefore, argued that the corporate value of large companies with significant assets cannot be improved significantly when those assets are not managed productively.

The fourth hypothesis which states that firm characteristics significantly influence corporate risk was accepted as indicated by the T-statistical value of 9.674 which is greater than 1.96 obtained through a two-tailed test. The positive direction of the coefficient also indicates that an increase in the attributes of a firm such as the size and political connection can improve the corporate risk measured through the financial (leverage) and total risks. This simply proves there is a significant effect of firm characteristics on corporate risk and this was further supported by the argument that large companies usually manage enormous resources and have a high risk of successful management. This finding is supported by the results of Khlif & Hussainey (2016) and Madrigal et al. (2015) that large companies tend to disclose more risk information to ensure transparency due to tighter public visibility from their stakeholders including regulators and to evaluate corporate risks, especially those related to litigation and adverse reputation. Alshirah et al. (2020), Soebyakto et al. (2018), and Amran et al. (2009) also showed that firm size has a significant influence on risk management disclosure and this reveals large and industrial companies tend to disclose broader risk information.

It was also argued that state-owned business companies are usually faced with a higher risk of providing welfare to the community. This was confirmed by the findings of Ariefianto & Soepomo (2013) and Chong et al. (2018) that firm characteristics such as firm size and political connection affect corporate risk. Moreover, the empirical evidence from the financial sector showed that large banks tend to have risk-averse behavior compared to smaller banks and this indicates the effect of firm size on corporate risk-taking. It is also important to acknowledge that government banks with increased capital tend to take more risks and this was supported by Mirza et al. (2019) and Ding et al. (2015) that corporate risk-taking is more related to government-affiliated corporations due to their ability to manage and monitor internal and external resources required to make decisions on risky projects. The findings also support the argument that investment decisions need to be made based on the consideration of political connections because politically connected companies tend to take risks and have lower performance. It is possible to achieve a political and social agenda as stated by Chong et al. (2018) and this is also in line with the results of Boubakri, Mansi, & Saffar (2013) that companies with political connections normally engage in more risk-taking and make less conservative investment choices. Furthermore, Chai & Mirza (2019) argued that companies associated with politics have a significant positive impact on risk-taking because they engage in aggressive investment decisions but need to use appropriate and transformative political resources to ensure legal compliance.

These findings were observed to be in line with the Stakeholder Theory which states that stakeholders determine corporate existence. Moreover, the development of sustainability reporting practices through the integration of environmental, social, and governance (ESG) issues into corporations can improve corporate value and risks. This means ESG needs to be applied by managers to meet the expectations of internal and external stakeholders with different interests. Practically, the results also showed the need to include ESG aspects in corporate reporting to ensure sustainability is considered in

making business decisions and preparing financial reports. This is observed to be in support of Financial Services Authority Number 51/POJK.03/2017 concerning the obligation for issuers and public companies implemented to internalize sustainability such as environmental, social, and governance issues. The involvement of corporations in these sustainability issues is expected to encourage equality of interests among the stakeholders determining their corporate existence. Therefore, it is necessary to strengthen sustainable governance to ensure corporate value creation in the long term.

## **CONCLUSION**

The findings showed that sustainability performance and firms characteristics have a significant influence on corporate risk but not on corporate value. It was discovered that the involvement of the corporation and the intensity of the corporate sustainability activities are more driven by the need to reduce business, social, and environmental risks. It was further argued that sustainability investment is a long-term policy and its performance cannot be measured in the short term. Moreover, sustainable practices were found to have more effect on business risk management due to their ability to reduce risks related to environmental and social issues. Another finding related to firm characteristics showed that large and politically affiliated companies usually take more significant risks because they tend to be involved in aggressive investment decisions but normally have lower performance due to the need to achieve certain political and social agendas. It was concluded that business corporations are expected to emphasize more non-financial issues to achieve better corporate value and their financial performance goals in the long term.

Some limitations were observed in this study, for example, it examines the sustainability ranking of companies in different sectors with each having different sustainability intensity and this means the type of industry in relation to high or low profile needs to be considered as an indicator of firm characteristics in the future. Moreover, only the category scale was used to measure sustainability performance because of limited information but it is recommended that a composite value be used in subsequent studies. It is also important to note that only financial (leverage) and corporate or firm risks were considered and this implies sustainability risk needs to be further quantified.

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