



ESG Disclosure, Political Connections, and Financial Risk: The Moderating Role of Accounting Information Systems in Indonesian SOEs

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Abstract

Background: Financial risk remains a critical governance concern for Indonesian state-owned enterprises (SOEs), particularly regarding sustainability disclosure, political connections, and accounting information systems (AIS).

Objective: This study examines the effects of Environmental, Social, and Governance (ESG) disclosure and political connections on financial risk and evaluates the moderating role of AIS.

Methods: A quantitative explanatory approach was applied to 34 SOEs listed on the Indonesia Stock Exchange during 2020–2024, comprising 170 firm-year observations. Secondary data were obtained from annual reports, sustainability reports, and financial statements. Financial risk was assessed using the Altman Z-score proxy, ESG disclosure through GRI indicators, political connections through board affiliation proportions, and AIS through ERP implementation. Data were analyzed using PLS-SEM with SmartPLS.

Results: ESG disclosure had no significant effect on financial risk ($\beta = 0.099$; $p = 0.234$), whereas political connections showed a positive and significant association ($\beta = 0.521$; $p < 0.001$). AIS did not significantly moderate the ESG disclosure–financial risk relationship ($\beta = 0.071$; $p = 0.280$) or the political connections–financial risk relationship ($\beta = -0.097$; $p = 0.296$). Including moderation terms increased R^2 marginally from 0.260 to 0.275.

Conclusion: Political connections are significantly associated with financial risk, whereas ESG disclosure and AIS moderation show no significant effects. These findings highlight the importance of strengthening SOE governance alongside accounting information system development.

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INTRODUCTION

Financial risk has become a global issue that has dominated corporate governance discourse over the past decade. Post-pandemic world economic uncertainty, tightening monetary policy, exchange rate volatility, and supply chain fragmentation have increased companies' exposure to potential financial losses that threaten business continuity (Masdupi et al., 2024). Companies operating in emerging markets face higher exposure due to limited access to funding and weak early warning mechanisms against liquidity and leverage pressures (Dung, 2023; R. Wei et al., 2024). In parallel, global pressure on the sustainability agenda is driving a shift in corporate reporting orientation from just financial performance to the integration of Environmental, Social, 3173 | INKUBIS: Jurnal Ekonomi dan Bisnis

and Governance (ESG) dimensions. At the same time, the phenomenon of political connections in corporate management structures has become a cross-border issue that attracts the attention of academics, as political attachment has been shown to affect access to resources while distorting market discipline (Coen & Vannoni, 2025; Huang et al., 2024; Y. Wei et al., 2023). The three global issues meet most intensely in state-owned entities, including State-Owned Enterprises (SOEs) in Indonesia that carry out the dual role of development agents as well as business entities (Apriliyanti, 2023; Harymawan et al., 2020).

The escalation of financial risks in state-owned entities is triggered by a number of interrelated factors. The first factor stems from agency conflicts between the government as the owner and management as the manager, which opens up space for opportunistic behavior in funding and investment decision-making.

The second factor is political intervention through the placement of power-affiliated figures on the board of commissioners and directors, which obscures commercial objectivity and stimulates moral hazard behavior due to the perception of rescue guarantees by the state (Braham et al., 2020; Carboni et al., 2023).

The third factor relates to the quality of non-financial disclosures: symbolic disclosure practices that lack genuine substance actually pose a risk of greenwashing and erode the credibility of information for stakeholders (Efthalitsidou et al., 2025; Leggerini et al., 2026).

The fourth factor, and the one that most often goes unnoticed, is the deficit in the capabilities of the Accounting Information System (AIS). Fragmented and unintegrated accounting architecture fails to carry out the early detection function of transaction anomalies and reporting irregularities (Anggraeni & Winarningsih, 2021; Djanegara et al., 2018), so that internal control loses its deterrent in the midst of volatile economic dynamics (Junaidi S. et al., 2022; Novatiani & Afiah, 2022).

The accumulation of these factors results in real and massive financial impacts. At the empirical level, weak governance supervision accompanied by political intervention has led to a series of cases of irregularities in SOEs with estimated state losses reaching hundreds of trillions of rupiah, as reflected in the cases of PT Pertamina (Persero), PT Timah Tbk, PT Asabri (Persero), and PT Waskita Karya (Persero) Tbk. especially when low ESG performance intersects with corrupt practices (Nurbaiti et al., 2024). At the level of capital structure, the pressure of government assignments on the construction and infrastructure sectors triggered a surge in debt ratios and a decline in the operational efficiency of SOEs compared to similar private companies (F. A. Wibowo et al., 2024). Further impacts can also be seen in the increasing probability of financial distress in politically connected companies (Candra & Joni, 2025; Kalbuana et al., 2022; Nugrahanti et al., 2020); , the increased risk of stock price downturn due to the hoarding of negative information (Pereira, 2022), and the weakening of investor confidence in the credibility of sustainability reports (Hossain et al., 2024; Reber et al., 2022). This series of impacts confirms that the financial risk of SOEs is not just a matter of financial ratios, but a systemic consequence of inadequate governance and information architecture.

This study specifically tested four constructs. Financial risk is positioned as a dependent variable and measured through the Altman Z-Score model, which is a discriminant analysis model that integrates a number of financial ratios to map the probability of a company's financial failure (Qiu et al., 2020; Spulbar et al., 2025). ESG disclosure as the first independent variable was measured using the Global Reporting Initiative (GRI) index, representing a company's transparency on environmental, social, and governance dimensions that are theoretically able to reduce information asymmetry while reducing risk exposure (Azmi & Hendranastiti, 2025; Fu et al., 2024). Despite this, the literature still shows inconsistencies in the findings: some studies prove the mitigating effects of ESG on risk, while others find that the high cost of implementing sustainability actually burdens short-term cash flows (Ridwan & Alghifari, 2025; Sihotang & Siregar, 2025). Political connections as the second independent variable are proxied through the proportion of members of the board of commissioners and directors who are politically affiliated, considering that political attachment can provide privileged access while magnifying excessive risk-taking behavior (Ningsih & Yusmita, 2024; Preuss & Königgruber, 2021; Wong & Hooy, 2025). The Accounting Information System is positioned as a moderation variable and is proxied through the implementation of Enterprise Resource Planning (ERP), which reflects the system's capabilities in ensuring accuracy, reliability, timeliness, and comparability of information

(Meilantika & Kusumastuti, 2024; Van, 2024). Referring to the Resource-Based View, the capabilities of such systems are intangible strategic assets that are difficult to replicate and have the potential to be a source of competitive advantage (Wang & Zhu, 2025).

The novelty of this research lies in integrating the sustainability dimension, the political dimension, and the information technology dimension into a single empirical model to explain financial risk. Previous studies have generally examined the influence of ESG disclosures and political connections separately, so the interaction between the two in shaping a company's risk profile has not been fully mapped (Huang et al., 2024). Unlike earlier moderated models that also position the accounting information system as a moderator (Meilantika & Kusumastuti, 2024), the present configuration integrates the sustainability, political, and information-technology dimensions within a single financial-risk model, which constitutes the incremental contribution of this study. In addition, Accounting Information Systems have been more often positioned as independent variables or just administrative instruments, rather than as a strategic governance mechanism that is able to condition the strength of relationships between variables (Latifah, 2020; Meilantika & Kusumastuti, 2024). This study offers a different perspective by positioning the Accounting Information System as a moderation variable that is predicted to validate the credibility of ESG signals while weakening the distorted impact of political connections on financial risk. The focus on SOEs listed on the Indonesia Stock Exchange for the period 2020–2024, which is a period marked by the acceleration of digital transformation and the strengthening of ESG implementation after POJK No. 51/POJK.03/2017, provides an empirical context that is still relatively rarely explored (Purwantini et al., 2025).

The urgency of this research rests on three considerations. First, the Financial Services Authority is preparing for a transition to a Sustainability Disclosure Standard that is aligned with international standards, which requires SOEs not to simply report on social activities but to integrate sustainability risks into the company's financial strategy and resilience (Okoye et al., 2025). Without the support of an integrated information system, these reporting demands risk stopping at the fulfillment of formalities. Second, the SOE digital restructuring and transformation agenda requires empirical evidence on the extent to which accounting technology investments actually contribute to risk mitigation, considering that the success of system implementation in SOEs is highly dependent on personnel competence and the effectiveness of information sharing between units, not solely on their technological sophistication (Napitupulu, 2018; Sastrodiharjo & Khasanah, 2023). Third, the magnitude of state losses due to internal control failures requires a study that places the quality of accounting information systems as a key variable in preventing irregularities (Djanegara et al., 2018; Lubis et al., 2024). The practical stakes are substantial: documented irregularities in SOEs such as PT Pertamina (Persero), PT Timah Tbk, PT Asabri (Persero), and PT Waskita Karya (Persero) Tbk have been associated with estimated state losses reaching hundreds of trillions of rupiah, underscoring the urgency of strengthening information-based governance.

Based on this description, this study aims to test and analyze the influence of ESG disclosure on financial risks in SOEs listed on the Indonesia Stock Exchange; test and analyze the influence of political connections on financial risk; prove the role of Accounting Information Systems in moderating the influence of ESG disclosures on financial risks; prove the role of Accounting Information Systems in moderating, in particular weakening, the influence of political connections on financial risk; and analyzing the difference in the results of estimating the path coefficient and the model's ability to explain financial risks between the model without moderation and the model with the moderation of the Accounting Information System. The test was carried out on all cross-sector SOE entities that have public accountability during the 2020–2024 period.

Theoretically, this study is expected to enrich the literature on financial risk management, sustainability accounting, and public sector accounting through the development of Agency Theory, Stakeholder Theory, Signaling Theory, and Resource-Based View in one coherent moderation framework. Practically, the findings of this research can be the basis for the Ministry of SOEs and the Financial Services Authority in formulating information system modernization policies as a prerequisite for strengthening reporting governance; to be a reference for SOE management in optimizing accounting information systems to strengthen the quality of operational data and sustainability reporting (Susilawati S. & Setiana, 2025); assisting internal

and external auditors in developing information system-based monitoring mechanisms to detect data anomalies early Otia & Bracci (2022); and provides guidance for investors in assessing the credibility of ESG reporting as a basis for measurable investment decision-making (Paula et al., 2024).

METHOD

This study is a quantitative research with an explanatory approach directed to examine the cause-and-effect relationship between variables and prove the conditional role of the Accounting Information System in this relationship. The explanatory strategy was chosen because the problems raised do not only describe the high financial risks in State-Owned Enterprises (SOEs), but also explain the mechanisms that make these risks strengthen or weaken (Krahara et al., 2025). The analytical strategy compares two structural models, one without moderation and one with moderation, so that the contribution of information system capabilities to reducing risk exposure can be isolated empirically rather than merely assumed (Evi & Rachbini, 2023; Ghozali & Latan, 2015). This design allows research to produce evidence that can be directly translated into reporting governance policy recommendations on state-owned entities (Purwantini et al., 2025). Thus, the answer to the problem does not stop at confirming the direction of the influence of ESG disclosure and political connections, but rather pointing specifically to the institutional prerequisites that make these two factors work to suppress or actually increase financial risks . Scope, Location, and Time of Research

This research was conducted on all State-Owned Enterprises entities across sectors listed on the Indonesia Stock Exchange, including the energy, construction, transportation, telecommunications, basic industry, finance, and pharmaceutical sectors. The selection of recorded entities is based on the consideration that companies with public accountability are bound by stricter disclosure obligations, so that standardized and verifiable data is available for all constructs tested (Sugiyono, 2021; Zickar & Keith, 2023). The observation time range is set for the 2020–2024 period, which is a period that is simultaneously marked by post-pandemic macroeconomic pressures, acceleration of digital transformation, and strengthening sustainability reporting obligations for Indonesian issuers (F. A. Wibowo et al., 2024). Cross-sector coverage is deliberately maintained so that the findings are not limited to the characteristics of one industry, considering that the intensity of political intervention and the level of maturity of information systems vary between sectors in SOEs (Apriliyanti, 2023; Harymawan et al., 2020).

Population and Research Sample

The population of this study is 37 state-owned companies and their subsidiaries listed on the Indonesia Stock Exchange during the 2020–2024 period. The sample withdrawal was carried out purposively with the criteria of SOE status listed on the stock exchange, having political affiliation in the board of commissioners or board of directors, publishing annual reports and sustainability reports consistently throughout the observation period, and having complete data for all variables measured. A total of 3 companies were excluded because they were only recorded after 2020 and did not meet the full observation range, so 34 companies were obtained that met all criteria. With a five-year panel data structure, the number of observations used reached 170 firm-years. This criterion-based screening is taken so that the sample truly represents the SOE governance conditions to be described, while maintaining the quality and representation of the sample which is a prerequisite for the validity of organizational research conclusions (Sugiyono, 2021; Zickar & Keith, 2023). A balanced panel arrangement between companies and between years is also pursued so that the observed variations in financial risks reflect the internal dynamics of the company over time, not just differences in the composition of the sample between periods (El-Chaarani & Lombardi, 2022; Nugrahanti et al., 2020).

Data Types and Sources

This research fully uses secondary data that is quantitative and sourced from official documents that are published publicly. Sustainability disclosure data and technology infrastructure information are extracted from each company's annual report as well as sustainability report; financial data and share prices obtained from audited financial statements

and official publications of the Indonesia Stock Exchange; Meanwhile, the background profile of the council members is traced through the annual report and official documents of the relevant ministries. The choice to rely on official sources that have gone through the audit and publication process is taken to ensure that the entire construct is measured on the basis of traceable evidence, so that the validity and reliability of the findings can be scientifically accounted for (Ji et al., 2024). This document search strategy also closes the risk of perception bias that commonly arises when the quality of information systems is measured through self-reported instruments (Sastrodiharjo & Khasanah, 2023).

This research concerns four interrelated aspects, namely financial risk as an explanatory aspect, ESG disclosure and political connections as an explanatory aspect, and Accounting Information Systems as an aspect that conditions the strength of the relationship between them (de Waal, 2022; A. Wibowo, 2021). Financial risk is measured through a modification of the Altman Z"-Score which integrates five ratios, namely working capital, retained earnings balance, earnings before interest and taxes, equity market value, and income, all relative to total assets and total liabilities. This instrument was chosen because it is able to summarize liquidity, cumulative profitability, asset productivity, and solvency in a single score that is sensitive to financial pressures on non-manufacturing companies in emerging markets (Qiu et al., 2020; Spulbar et al., 2025).

ESG disclosures are measured as the ratio between the number of items disclosed by a company to the total items of the Global Reporting Initiative's standard, thus capturing the depth of transparency and not just the existence of the report (Sholachuddin & Andayani, 2026). Political connections are measured through the proportion of politically affiliated members of the board of commissioners and directors to the total board members. The use of the ratio scale is taken to overcome the limitations of binary measurement that is unable to distinguish the intensity of political attachment between companies (Coen & Vannoni, 2025; Ningsih & Yusmita, 2024). The Accounting Information System is proxied through the implementation of Enterprise Resource Planning, which is an objective marker for the integration of the company's accounting architecture based on the disclosure of information technology infrastructure in the annual report (Meilantika & Kusumastuti, 2024; Van, 2024). The operational definition, indicator, and measurement scale of each variable are summarized in Table 1.

Table 1
Operational Definition and Measurement of Variables

Variable	Indicator / Measurement	Source
Financial Risk (Y)	Modified Altman Z"-Score, composed of five ratios: 1. Working Capital / Total Assets 2. Retained Earnings / Total Assets 3. EBIT / Total Assets 4. Market Value of Equity / Total Liabilities 5. Revenue / Total Assets	Spulbar et al. (2025)
ESG Disclosure (X1)	Percentage of GRI Standards items disclosed (0-100%): number of items disclosed divided by total GRI items, multiplied by 100	Sholachuddin & Andayani (2026)
Political Connection (X2)	$POLBO = \frac{\text{Number of board members with political connections}}{\text{Total number of board members}} \times 100\%$ Ratio scale (proportion of politically affiliated members of the board of commissioners and the board of directors)	Ningsih & Yusmita (2024)
Accounting Information System (Z)	Dummy variable based on ERP implementation: 1 = the company implements an ERP-based accounting information system 0 = the company does not implement an ERP-based accounting information system	Meilantika & Kusumastuti (2024)

Source: Data processed (2026)

Data Analysis Techniques and Testing Strategies

Data analysis was carried out with Partial Least Square–Structural Equation Modeling through SmartPLS software. This approach was chosen because the study tested multiple influence pathways as well as two interaction effects in a single model, thus requiring simultaneous estimates that remained stable at limited sample sizes and data distribution forms that were not always normal (Evi & Rachbini, 2023; Ghozali & Latan, 2015). The test is carried out in stages: evaluation of the measurement model to ensure that each indicator truly represents the construct in question, followed by the evaluation of the structural model to assess the clear power of the model against variations in financial risk. The effect of moderation is tested through a product indicator approach by forming an interaction construct between the Accounting Information System and ESG disclosures and with political connections. The significance of the entire pathway was obtained through the bootstrapping procedure at a 5 percent error rate (Evi & Rachbini, 2023; Ghozali & Latan, 2015). The key strategy of this study lies in the comparison of the unmoderated model with the moderated model; The difference in path coefficient and the clear power of the model between the two is direct evidence of the extent to which the quality of the accounting information system is able to validate sustainability signals while mitigating the distortions caused by political connections to the financial risks of SOEs (Fu et al., 2024; Napitupulu, 2018). To reflect the five-year panel structure, path significance was obtained through nonparametric bootstrapping, while within-firm dependence across the pooled 170 firm-year observations is acknowledged as a design limitation. Multicollinearity among the predictors and interaction terms was assessed using the variance inflation factor (VIF); all inner VIF values remained below the conservative threshold of 3.3, indicating no critical collinearity.

RESULTS AND DISCUSSION

Results

Object Profile and Research Data Description

The object of this research is cross-sectoral State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange throughout the 2020–2024 period. Of the initial population of 37 companies, as many as 3 companies were excluded because they were only recorded after 2020 so they did not meet the full observation range. The final sample consisted of 34 companies with a five-year panel data structure, resulting in 170 firm-year observations worth analysis. The composition of the sample includes the construction, finance, mining, energy and oil and gas, transportation, basic industries, pharmaceuticals, property, and telecommunications sectors, so that the findings are not tied to the characteristics of a single industry (F. A. Wibowo et al., 2024). All data is tabulated from the annual report and the official sustainability report by including specific page references in the research working paper as a validation procedure, to ensure the accuracy and traceability of the raw data before processing using SmartPLS (Ji et al., 2024).

Table 2
Sample Screening Procedure

Notes	Quantity
State-owned enterprises (SOEs) listed on the IDX during the 2020–2024 period	37
Companies listed after 2020	(3)
Companies meeting the sample criteria	34
Total observations over the study period (34 × 5 years)	170

Source: Data processed (2026)

Descriptive Overview of Research Variables

The descriptive statistical results in Table 3 provide a preliminary overview of the characteristics of the four variables tested. Financial risks proxied through the Altman Z-Score recorded an average value of 1.094 with a median of 0.951, a range from –7.576 to 9.027, and a standard deviation of 1.969. The average value that is well below the safe threshold of the bankruptcy prediction model indicates that the majority of SOE observations are in the zone prone to financial stress, while a very wide range shows a sharp disparity in financial health between

state-owned entities (Qiu et al., 2020; Spulbar et al., 2025). ESG disclosures have an average of 22.287 (expressed as the percentage of GRI Standards items disclosed, 0-100%) with a median of 21.524 and a standard deviation of 5.944; The skewness value of 0.153 and excess kurtosis 0.396 indicate a distribution that is close to normal, so the level of sustainability transparency in the sample is relatively even although it varies between companies (Sholachuddin & Andayani, 2026).

Political connections recorded an average of 0.360 with a median of 0.357, which means that around 36% of the seats on the board of commissioners and directors in the sample SOEs are filled by figures with political backgrounds. The range of values moves from 0.000 to 1.000, indicating that there is an observation with the ranks of the council that is completely free of political affiliation as well as observation with all council seats filled with politically affiliated figures. Such a distribution confirms that the intensity of political attachment to SOEs is not a uniform condition, but varies substantially so that it is worth measuring on a ratio scale instead of a binary (Coen & Vannoni, 2025; Ningsih & Yusmita, 2024). The Accounting Information System proxied through ERP implementation recorded an average of 0.694 with a median of 1.000, which means that around 69% of observations have adopted an integrated system, while the rest have not. The standard deviation of 0.461 confirms that the level of maturity of accounting infrastructure is still diverse in SOEs (Meilantika & Kusumastuti, 2024; Sastrodiharjo & Khasanah, 2023).

The correlation pattern between constructs provides an initial clue that is aligned with the results of subsequent structural testing. The correlation between political connections and financial risk was recorded as the strongest among all construction pairs, at 0.492, while the correlation between ESG disclosure and financial risk was only 0.050 and the correlation between Accounting Information Systems and financial risk was 0.010. This configuration suggests that the factor most strongly associated with the risk profile of SOEs comes from the political governance structure, not from the intensity of sustainability reporting nor from the maturity of the accounting technology infrastructure. Interestingly, the correlation between Accounting Information Systems and political connections was actually a positive value of 0.243, indicating that companies with higher political attachments tend to also be large-scale entities that have adopted integrated systems. This positive association indicates that larger SOEs with stronger political ties also tend to be the entities that have adopted integrated systems, which complicates the assumed independence of the moderating variable and may partly explain its limited moderating power (Djanegara et al., 2018; Napitupulu, 2018; Sudarmanto et al., 2022).

Table 3

Descriptive Statistical Analysis Results (n = 170)

Indicator	Mean	Median	Min	Max	Std. Dev.	Excess Kurtosis	Skewness
Total ESG	22.287	21.524	8.762	38.810	5.944	0.396	0.153
Political Connection (PC)	0.360	0.357	0.000	1.000	0.187	2.290	0.962
Altman Z-Score (FR)	1.094	0.951	-7.576	9.027	1.969	3.161	-0.075
Accounting Information System (AIS)	0.694	1.000	0.000	1.000	0.461	-1.293	-0.850

Source: Data processed with SmartPLS (2026)

Evaluation of Measurement Models

Evaluation of the measurement model is carried out to ensure that each indicator validly represents its construct before the structural relationships are tested (Evi & Rachbini, 2023; Ghozali & Latan, 2015). As presented in Table 4, all major constructs produce an outer loading, Cronbach's Alpha, Composite Reliability, and AVE values of 1,000. This perfect achievement is a methodological consequence of the use of a single indicator in each construct, so that the variance of the indicator is fully represented by its latent variable and leaves no measurement errors. The ESG interaction construct $\times$ AIS and PC $\times$ AIS recorded 1,160 and 1,010 loads, respectively; Values that exceed number one are common in interaction constructs formed through the product indicator approach in SmartPLS and remain statistically valid. The results of the cross loading test

also showed that the correlation of each indicator to its original construct was always higher than its correlation to other constructs, so that the discriminant validity was fulfilled and the model was free from the indication of overlapping measurements (Evi & Rachbini, 2023; Ghozali & Latan, 2015). It should be emphasized, however, that because each construct is measured by a single indicator, the outer loadings, Cronbach Alpha, Composite Reliability, and AVE in Table 4 are necessarily 1.000 and therefore convey no validation information by construction; they are reported only for completeness. Likewise, the near-perfect fit indices (SRMR = 0.001; NFI = 1.000) are artefacts of a just-identified model rather than evidence of superior fit. PLS-SEM is retained here because it accommodates the simultaneous estimation of two interaction effects and single-indicator specifications at a limited sample size; the interaction-term loadings exceeding 1.0 (1.160 and 1.010) are a known property of the product-indicator approach rather than a validity threat. The single-indicator design and the consequent non-informative reliability and fit statistics are acknowledged as limitations of this study.

Table 4*Summary of Construct Validity and Reliability Test Results*

Construct	Outer Loading	Cronbach's Alpha	rho_A	Composite Reliability	AVE
ESG Disclosure	1.000	1.000	1.000	1.000	1.000
Political Connection (PC)	1.000	1.000	1.000	1.000	1.000
Accounting Information System (AIS)	1.000	1.000	1.000	1.000	1.000
Financial Risk (FR)	1.000	1.000	1.000	1.000	1.000
ESG × AIS	1.160	1.000	1.000	1.000	1.000
PC × AIS	1.010	1.000	1.000	1.000	1.000

*Source: Data processed with SmartPLS (2026)***Structural Model Evaluation and Model Suitability**

The structural model yielded an R^2 value of 0.275 with an Adjusted R^2 of 0.253, which means that ESG disclosures, political connections, and the moderation mechanism of the Accounting Information System together were able to explain 27.5% of the variation in SOEs' financial risks. This value is moderate and is commonly found in the literature that links non-financial governance attributes with objective accounting indicators, considering that financial risks tend to respond to market shocks, interest rate fluctuations, and commodity price volatility much faster than the effects of internal governance improvements (Dung, 2023; Y. Wei et al., 2023). In terms of model suitability, the SRMR value of 0.001 is well below the threshold of 0.08, while d_ULS and d_G are valued at 0.000 and NFI reaches 1,000. This near-perfect fit is a consequence of the just-identified model structure due to the use of a single-indicator construct, so that the model does not leave a residual degree of freedom (Evi & Rachbini, 2023; Ghozali & Latan, 2015). Figure 1 presents the configuration of the structural model along with all the coefficients of the obtained path.

Table 5*Results of Structural Model Evaluation and Model Suitability*

Criteria	Saturated Model	Estimated Model
SRMR	0.000	0.001
d_ULS	0.000	0.000
d_G	0.000	0.000
Chi-Square	-0.000	0.004
NFI	1.000	1.000

Criteria	Saturated Model	Estimated Model
R ² (Financial Risk)	—	0.275
Adjusted R ² (Financial Risk)	—	0.253

Source: Data processed with SmartPLS (2026)

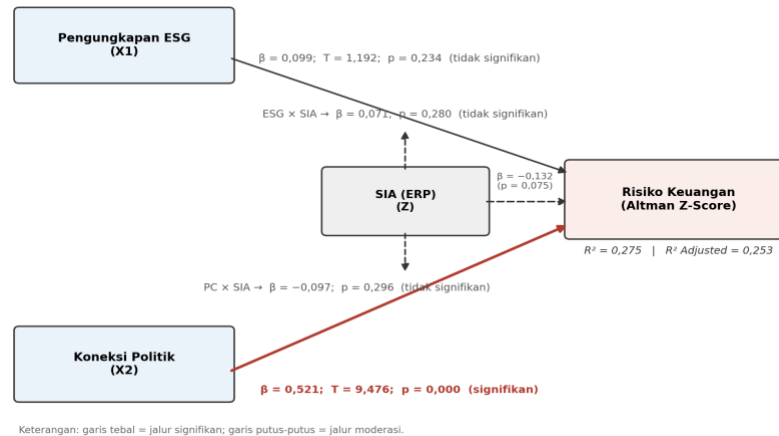


Figure 1. PLS-SEM structural model with estimated path coefficients.

[Note: all figure labels and variable names are standardized to English — ESG = ESG Disclosure; PC = Political Connection; AIS = Accounting Information System; FR = Financial Risk.]

Hypothesis Testing Results

Hypothesis testing was carried out through a bootstrapping procedure with a T-statistical criterion of > 1.96 and a p-value of < 0.05 . The results in Table 6 show that of the five pathways tested, only one pathway proved significant. The path of political connection to financial risk resulted in a coefficient of 0.521 with a T-statistic of 9.476 and a p-value of 0.000, so that the second hypothesis was accepted with a positive influence direction. In contrast, the ESG disclosure pathway to financial risk resulted in a coefficient of 0.099 with a T-statistic of 1.192 and a p-value of 0.234, so the first hypothesis was rejected. The direct influence of the Accounting Information System on financial risk is also not significant at the level of 5% with a coefficient of -0.132 and a p-value of 0.075. The two moderation pathways, namely $ESG \times AIS$ with a coefficient of 0.071 ($p = 0.280$) and $PC \times AIS$ with a coefficient of -0.097 ($p = 0.296$), were both insignificant, so the third and fourth hypotheses were rejected (Evi & Rachbini, 2023; Ghozali & Latan, 2015).

It should be noted that the direction of the coefficients on the insignificant paths still provides substantively meaningful information. The Accounting Information System coefficient of financial risk is negative (-0.132) and is relatively close to the threshold of significance, which indicates a mitigating tendency even though it has not been statistically proven at the level of 5%. Similarly, the interaction coefficient of $PC \times AIS$ which is marked negative (-0.097) according to the direction of theoretical prediction, namely a reliable information system should weaken the distorted impact of political connections. The failure of both pathways to achieve significance suggests that the expected direction of effect is actually indicated by the data, but the magnitude is too weak to be detected in a sample size of 170 observations with binary proxies (Meilantika & Kusumastuti, 2024). In contrast, the dominance of the political connection path with the T-statistic reaching 9,476 shows the power of the effect far beyond all other constructs in the model (Elamer et al., 2026; Preuss & Königsgruber, 2021).

Table 6*Hypothesis Testing Results via Bootstrapping*

Track	Original Sample (O)	Sample Mean (M)	STDEV	T-Statistics	P-Values	Result
ESG → FR	0.099	0.103	0.083	1.192	0.234	Not significant (H1 rejected)
PC → FR	0.521	0.530	0.055	9.476	0.000	Significant (H2 accepted)
AIS → FR	-0.132	-0.140	0.074	1.783	0.075	Not significant
ESG × AIS → FR	0.071	0.072	0.065	1.081	0.280	Not significant (H3 rejected)
PC × AIS → FR	-0.097	-0.106	0.093	1.047	0.296	Not significant (H4 rejected)

*Source: Data processed with SmartPLS (2026)***Comparison of Models Without Moderation and Models with Moderation**

To answer the formulation of the fifth problem, this study compares the two model specifications systematically, as presented in Table 7 and visualized in Figure 2. The coefficient of the political connection path to financial risk is almost unchanged between the two models, namely 0.523 in the model without moderation and 0.521 in the model with moderation, with the same level of significance consistent at $p = 0.000$. This stability shows that the influence of political connections is robust and is not disturbed by the inclusion of interaction constructs into the model. Meanwhile, ESG and Accounting Information Systems disclosures remained insignificant on both specifications, although the T-statistic values of both increased slightly after moderation was included. The R^2 value only rose from 0.260 to 0.275 and the Adjusted R^2 from 0.246 to 0.253, which is an increase of about 1.5% that does not reflect a substantive contribution. A similar pattern was reported by Tarisa & Rohman (2026), who found that the ESG coefficient remained stable between models with an increase in R^2 of only 0.26% when insignificant moderation variables were included in the equation.

Table 7*Comparison of Models Without Moderation and Models with Moderation*

Track	β_1	β_2	T_1	T_2	p_1	p_2	Ket.
ESG → FR	0.071	0.099	0.919	1.192	0.359	0.234	No sig.
PC → FR	0.523	0.521	9.886	9.476	0.000	0.000	Sig.
AIS → FR	-0.109	-0.132	1.615	1.783	0.107	0.075	No sig.
ESG × AIS → FR	—	0.071	—	1.081	—	0.280	No sig.
PC × AIS → FR	—	-0.097	—	1.047	—	0.296	No sig.
R^2	0.260	0.275	—	—	—	—	—
R^2 Adjusted	0.246	0.253	—	—	—	—	—

*Caption: subscript 1 = model without moderation; Subscript 2 = model with moderation.**Source: Data processed with SmartPLS (2026)*

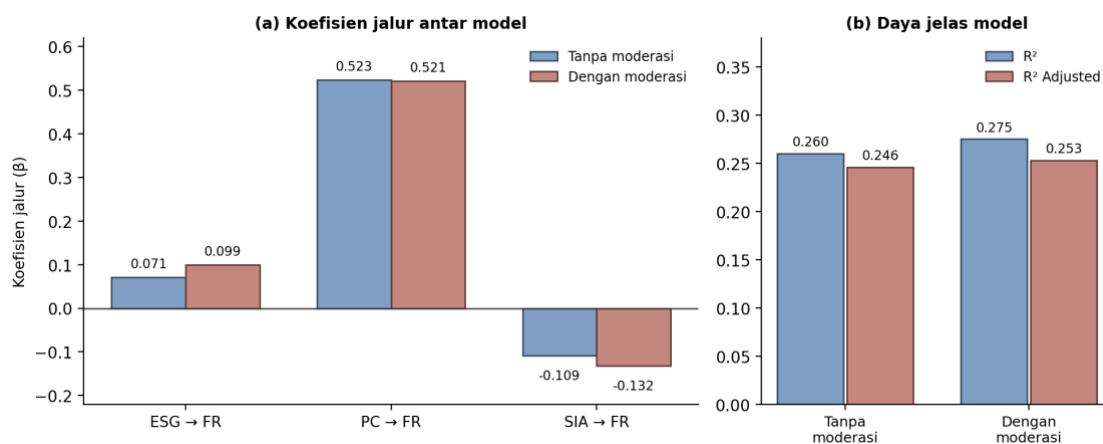


Figure 2. Comparison of path coefficients and R-squared between the unmoderated and moderated models.

[Note: all figure labels and variable names are standardized to English — subscript 1 = model without moderation; subscript 2 = model with moderation.]

Discussion

ESG Disclosure and Financial Risk

The insignificant effect of ESG Disclosure on Financial Risk indicates that differences in the level of sustainability disclosure among the observed SOEs are not statistically associated with differences in Financial Risk during the 2020–2024 period. Accordingly, the findings do not provide empirical support for the hypothesis that greater ESG disclosure directly reduces financial-risk exposure. One possible interpretation is that sustainability disclosure may not yet operate as a sufficiently strong direct risk-management signal to affect the financial indicators captured by the reverse-scored Altman Z-score. This interpretation is consistent with Sihotang and Siregar (2025), who reported that ESG performance did not significantly affect financial distress among Indonesian non-financial issuers. Azmi and Hendranastiti (2025) similarly indicate that the relationship between ESG and financial risk may operate through indirect mechanisms, including financial constraints. Therefore, the present findings should be interpreted as evidence of an insignificant direct relationship rather than as proof that ESG disclosure has no broader financial relevance.

Political Connections and Financial Risk

In contrast to ESG, political connections have been shown to have a positive and significant effect on financial risk, which means that the greater the proportion of politically affiliated boards, the higher the risk exposure the company faces (consistent with the reverse-scored Altman Z-score convention, under which higher values denote higher financial risk). Theoretically, this finding is in line with Agency Theory, where the presence of political figures serves as a shield that gives rise to moral hazard behavior because management feels protected from bankruptcy pressure and legal supervision (Carboni et al., 2023). This shift in priorities distorts working capital allocation and short-term debt management policies, which directly disrupts the ratios that make up the Altman Z-Score. Nuswantara et al. (2023) found the same pattern, namely political affiliation in the board ranks actually strengthens the tendency to financial distress because the orientation of supervision shifts following more dominant political interests. These findings are also in line with Nugrahanti et al. (2020) and Wong and Hooy (2025), who show that political attachment drives excessive risk-taking behavior in companies in emerging markets.

The variation in political connections is also reflected in several observations with a value of zero, including PT Bank Raya Indonesia Tbk (AGRO) in 2021, PT Garuda Indonesia (Persero) Tbk (GIAA) in 2021 and 2022, and PT Indofarma Tbk (INAF) in 2024. These observations demonstrate that political connections are not uniformly present across SOEs or across observation years, supporting the use of a proportional rather than purely binary measure of political affiliation. However, the absence of politically affiliated board members in particular firm-year observations should not be interpreted as direct evidence of the absence of political influence, preferential access, or government support because these mechanisms were not

separately measured in this study. Accordingly, these observations primarily illustrate the variation in the political-connection construct captured by the dataset.

The Failure of the Role of Moderation in Accounting Information Systems

The failure of the Accounting Information System to moderate both lines of influence can be explained through Contingency Theory, which places the effectiveness of the management control system as a function of its conformity with the strength of the organizational environment. When dealing with political authority at the board level, the procedural control parameters inherent in the information system lose their functional relevance, so that the system is degraded into a means of recording transactions instructed by the leadership instead of an independent risk control mechanism. Wang and Zhu (2025) assert that the real benefits of an accounting information system absolutely depend on the organizational context in which the system operates, not solely on the existence of the system.

On the ESG path, Thanh and Ngoc (2025) show that accounting information systems play more of a role as a catalyst for the quality of non-financial information and decision-making success, so that its impact on financial indicators is indirect. Adri et al. (2026) report a similar parallel, namely that external assurance also fails to moderate the relationship between ESG performance and corporate value in an institutional environment dominated by political-business ties. In line with Rizaldi and Arrozi (2025), the increase in the apparent power of the model is only meaningful when the interaction term is proven to be significant; The increase in R^2 of 1.5% in this study confirms that strengthening technological infrastructure alone is not enough to compensate for political distortions (Sastrodiharjo & Khasanah, 2023).

Overall, the configuration of the results of this study conveys a clear message: in the context of Indonesian SOEs for the 2020–2024 period, the dominant source of financial risk is structural and political, not technological or administrative. The theoretical implication is that the assumption of the Resource-Based View regarding accounting information systems as a strategic asset that generates competitive advantage does not automatically apply; The capabilities of the new system are valuable if supported by an organizational context that allows the system to operate independently (Van, 2024).

The practical implication is that efforts to modernize information systems that are not accompanied by strengthening the independence of the board and external oversight have the potential to only produce formal legitimacy without improving the risk profile. Strengthening the feasibility and propriety testing mechanism for prospective board members, accompanied by independent insurance for sustainability reports, is therefore a more urgent prerequisite than the addition of technology modules alone (Lubis et al., 2024; Otia & Bracci, 2022).

CONCLUSION

This study examined the effects of ESG Disclosure and Political Connections on the Financial Risk of Indonesian SOEs during the 2020–2024 period, with the Accounting Information System (AIS) positioned as a moderating variable. The findings show that ESG Disclosure does not have a statistically significant effect on Financial Risk, whereas Political Connections have a positive and significant effect (coefficient = 0.521; $p < 0.001$). Under the reverse-scored Altman Z-score convention adopted in this study, this result indicates that a higher proportion of politically affiliated board members is associated with greater financial-risk exposure. AIS does not significantly moderate either the ESG Disclosure–Financial Risk relationship or the Political Connections–Financial Risk relationship. Consistently, the explanatory power of the model increases only marginally after the moderation terms are introduced, with R^2 increasing from 0.260 to 0.275 and adjusted R^2 from 0.246 to 0.253.

These findings indicate that political connections constitute the most prominent explanatory factor for Financial Risk among the variables examined, while ESG Disclosure and AIS-related moderation do not demonstrate significant direct or moderating effects in the tested model. Theoretically, the findings suggest that the strategic value attributed to accounting information systems under the Resource-Based View may depend on the organizational and governance context in which such systems operate. Practically, the results indicate that technological modernization alone may not be sufficient to strengthen the financial resilience of SOEs, highlighting the importance of governance mechanisms alongside improvements in

accounting information systems and sustainability reporting. These conclusions should be interpreted within the study's measurement and analytical limitations.

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AUTHOR CONTRIBUTION STATEMENT

Muhammad Maulana Fikri, Islahuddin, and Fifi Yusmita are acknowledged as the authors of this study. The manuscript encompasses research conceptualization, literature review, methodological development, secondary data collection, statistical analysis, interpretation of findings, and manuscript preparation. The specific allocation of these responsibilities among the authors should be confirmed before publication. All authors are expected to review and approve the final manuscript and accept accountability for its scholarly content, accuracy, and integrity.

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