



# ESG Performance and AI Governance: Evidence from Thailand

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## ABSTRACT

This study examines how environmental, social, and governance (ESG) performance affects artificial intelligence (AI) governance. Using panel data from companies listed on the Stock Exchange of Thailand, this study employs ordinary least squares regression to test the hypothesis. The findings suggest that ESG performance has a significant positive association with AI governance, supporting the notion that ESG-related capabilities in compliance, transparency, and stakeholder engagement can be used as an internal governance framework for mitigating emerging AI-related risks. However, this translation is not automatic but depends critically on leadership. The positive moderating effects of Gen X and Gen Y CEOs, contrasted with the insignificant and negative moderation observed for Baby Boomer CEOs, suggest that younger leaders—who are generally more digitally oriented—are better able to convert ESG commitments into concrete AI policies, controls, and oversight mechanisms. Overall, the findings reveal a dual governance structure wherein ESG performance serves as the foundational “hardware” for responsible AI, while the generational characteristics of CEOs act as the “software” that influences the efficacy of leveraging these ESG capabilities to establish and maintain AI governance.

**Keywords:** ESG Performance, AI Governance, Generational Cohorts

**JEL Classifications:** G34, M14, O33, Q56

## 1. INTRODUCTION

ESG has emerged as a crucial criterion for investors and other stakeholders to evaluate corporate performance. This is because ESG not only signals a genuine commitment to sustainability but is also linked to substantive improvements in organizational operations and performance. For instance, high-sustainability firms tend to develop superior governance structures and stakeholder-oriented practices (Eccles et al., 2014). Large-scale evidence syntheses further suggest that ESG–corporate financial performance relationships are predominantly non-negative (Friede et al., 2015), while firm-level empirical work links stronger ESG performance to higher firm value and profitability (Aydoğmuş et al., 2022). In parallel, the rapid diffusion of AI into business operations has intensified calls for stronger governance to mitigate risks that range from biased outcomes and opaque decision-making to broader societal and geopolitical externalities (Roberts et al., 2024). Crucially, scholars increasingly frame AI governance as an organizational governance problem—one

that must be integrated with existing corporate, information technology (IT), and data governance structures rather than treated as a purely technical add-on (Mäntymäki et al., 2022).

Despite the parallel maturation of ESG performance and AI governance conversations, the causal link between them remains insufficiently tested. While AI governance research has advanced definitions and frameworks for what “responsible AI governance” should look like (Papagiannidis et al., 2025), it still notes a limited understanding of how these principles are operationalized across the AI lifecycle and embedded in organizational practice. Meanwhile, emerging work at the ESG–AI intersection has largely focused on how AI risks can be incorporated into ESG assessment—especially from an investor and decision-support perspective (Lee et al., 2025)—rather than examining whether ESG capabilities inside firms drive the adoption, resourcing, and maturity of corporate AI governance mechanisms. Consequently, there is a clear gap for firm-level research that theorizes and empirically evaluates ESG as an antecedent to organizational AI governance design and implementation.

Thailand offers a particularly fitting empirical context for this inquiry, as the institutionalization of ESG infrastructures in capital markets coincides with the rapid adoption of AI across various sectors, thereby presenting a timely moment for governance inflection. For Thai listed firms, the ESG ecosystem now includes formalized rating and signaling mechanisms; for example, evidence shows that SET ESG ratings are associated with firm value (Moolkham, 2025b). Complementary evidence indicates that ESG reporting is positively associated with profitability (Treepongkaruna and Suttipun, 2024), while ESG performance relates to reducing financial risk (Suttipun, 2023). At the same time, research on Northern Thai manufacturing small and medium-sized enterprises (SMEs) documents readiness and barriers for AI adoption (including strategic leadership and data quality)—highlighting that organizational capability-building is central as AI diffuses (Boonmee et al., 2025). Together, these conditions make Thai firms an analytically rich context to examine whether ESG maturity functions as a “governance substrate” that can catalyze robust AI governance in an emerging economy.

This study aims to contribute by explicitly theorizing the role of ESG in driving AI governance. In doing so, this research builds upon organizational AI governance literature that situates AI governance within the comprehensive governance framework (Mäntymäki et al., 2022) and emphasizes the necessity for clearer practical implementation in responsible AI governance (Papagiannidis et al., 2025). Through this lens, the study seeks to: (i) create an integrative framework that connects ESG governance mechanisms to AI governance practices, (ii) present empirical data from Thai firms where ESG institutionalization and AI diffusion occur simultaneously, and (iii) broaden the ESG–AI discourse beyond investor-centric evaluations to encompass internal corporate governance design—resulting in actionable insights for boards, investors, and policymakers aiming to align AI utilization with ESG standards.

## 2. LITERATURE REVIEW

### 2.1. Theoretical Framework

Agency theory elucidates the possible discord between the actions of managers and the interests of shareholders, especially in scenarios characterized by information asymmetry and inadequate oversight (Jensen and Meckling, 1976). Recent ESG research indicates that robust ESG performance can serve as an internal governance mechanism by diminishing information asymmetry, alleviating financing frictions, and reducing risk—thereby lessening agency costs. For example, Bilyay-Erdogan et al. (2024) demonstrate that enhanced ESG performance improves investment efficiency via mechanisms including information asymmetry, financial constraints, cash flows, and risk. Evidence from tourism firms likewise suggests that enhanced sustainability performance correlates with reduced corporate risk, illustrating the importance of ESG in oversight and risk management (Abdelsalam et al., 2025). In parallel, the AI governance literature defines responsible AI governance as a collection of structural, relational, and procedural practices integrated throughout the AI lifecycle to guarantee ethical, transparent, and accountable AI utilization (Papagiannidis et al., 2025). Collectively, these insights indicate

that companies employing ESG as a sophisticated governance instrument are more inclined to apply similar monitoring, control, and risk-management principles to the supervision of AI systems.

To complement the agency perspective, stakeholder theory views the firm as a nexus of relationships among multiple stakeholder groups whose interests should be balanced rather than subordinated solely to shareholders. From this standpoint, ESG performance represents an observable expression of a stakeholder-oriented strategy that prioritizes environmental stewardship, social responsibility, and sound governance. Bhandari et al. (2022) explicitly connect stakeholder capitalism to ESG, arguing that firms embedded in ecological and social systems deploy ESG practices to create value for multiple stakeholder groups. Freeman et al. (2021) further argue that stakeholder theory complements the agency perspective by emphasizing normativity, sustainability, and cooperative value creation. Consistent with this logic, systematic reviews in the AI domain portray AI governance as inherently stakeholder-centric, as it seeks to address fairness, transparency, bias, and accountability concerns for affected individuals, communities, regulators, and investors (Batool et al., 2025).

From the perspective of the resource-based view (RBV), strong ESG performance may also reflect valuable, rare, and difficult-to-imitate organizational capabilities—such as mature compliance systems, advanced data and reporting infrastructures, and a culture supportive of sustainability—that can generate sustained competitive advantage (Bhandari et al., 2022). Importantly, these capabilities overlap with those required for effective AI governance, including data governance expertise, cross-functional coordination, and the ability to translate abstract ethical principles into operational routines and controls across the AI lifecycle. Thus, ESG excellence may not only signal stronger incentives for oversight (as emphasized by agency theory) and broader governance objectives (as emphasized by stakeholder theory) but also indicate the organizational capacity to implement and sustain sophisticated AI governance mechanisms (as emphasized by the resource-based view RBV).

Taken together, agency theory, stakeholder theory, and the RBV jointly imply that ESG performance can be a key driver of responsible AI governance. Agency theory highlights how ESG-related transparency and monitoring strengthen managerial discipline and reduce information asymmetry, increasing the likelihood that formal AI controls are instituted. Stakeholder theory suggests that firms committed to balancing the interests of diverse stakeholder groups are more inclined to design AI governance frameworks that proactively address fairness, transparency, bias, and accountability. Finally, the RBV indicates that ESG leaders possess transferable capabilities that can be redeployed to operationalize responsible AI governance throughout the AI lifecycle. Synthesizing these perspectives, this study posits that firms with higher ESG performance are both more motivated and better equipped to implement responsible AI governance.

### 2.2. Hypothesis Development

ESG performance is widely regarded as an overarching indicator of how effectively firms embed sustainability into their strategy, risk

management, and governance. By strengthening transparency and disclosures, ESG engagement can reduce information asymmetry for creditors and other stakeholders while enhancing firms' risk and performance profiles. Evidence from Thai listed companies links stronger ESG performance to lower systematic risk (Rattanakom et al., 2023), while a study in German firms shows that ESG—particularly the governance dimension—improves accounting-based financial performance, highlighting the monitoring and control functions of ESG commitment (Velte, 2017). Beyond risk and financial outcomes, ESG performance also promotes innovation and capability building. For instance, Lee (2025) finds that ESG strengthens innovation in South Korean firms (especially post-COVID-19 pandemic), while Chen et al. (2024) show that ESG enhances the novelty of innovation among Chinese A-share firms by expanding innovation resources and alleviating agency problems under policy uncertainty and financing constraints. Taken together, these findings suggest that high-ESG firms are more likely to invest in intangible assets (e.g., trust and reputational capital) and in robust internal infrastructures (e.g., controls, analytics, and data governance) that support measurement, reporting, and strategic decision-making.

In parallel, AI governance has increasingly been conceptualized as an extension of corporate and IT governance that formalizes accountability, control, and oversight for data, algorithms, and AI-enabled systems. Prior research focuses on the importance of dedicated policies, processes, and organizational arrangements that align AI development and use with ethical norms, legal requirements, and strategic objectives (Batool et al., 2025; Papagiannidis et al., 2025; Schneider et al., 2023), while also securing legitimacy and stakeholder trust as AI scales (Birkstedt et al., 2023). Conceptual work further argues that ESG principles can provide a blueprint for responsible AI governance, particularly because sustainability-oriented firms face stronger regulatory and stakeholder scrutiny regarding issues such as bias, privacy, cybersecurity, and the environmental footprint of AI infrastructures (Sklavos et al., 2024). Given that high-ESG firms inherently possess stronger governance, risk management, and innovation capabilities, it is reasonable to posit that superior ESG performance will be associated with more formal and robust AI governance mechanisms. Accordingly, this study proposes the following hypothesis:

H<sub>1</sub>: ESG performance has a positive association with AI governance.

### 3. METHODOLOGY

#### 3.1. Data Collection

The research employs panel data from companies listed on the Stock Exchange of Thailand (SET) that received SET ESG ratings during the 2023-2024 period. Companies with incomplete data were excluded, resulting in a final sample of 157 firms and a total of 314 observations. The data for these listed companies was sourced from SETSMART, the official financial database provided by the SET, which is widely recognized for offering standardized information for academic research on Thai listed firms. As the SET ESG ratings were first introduced in 2023, this limitation hinders the ability to draw reliable inferences about long-term dynamics.

Consequently, this empirical design concentrates exclusively on short-term outcomes.

#### 3.2. Measurement of Variables

This study operationalizes the construct of ESG performance (ESG) using the SET ESG ratings, which provide a comprehensive and standardized assessment of corporate sustainability practices for firms listed on the SET. The research applies the conversion methodology proposed by Moolkham (2025b) to facilitate quantitative analysis within the structural equation model. The ordinal letter-grade ratings, which range from “BBB” to “AAA,” are converted into a numerical scale. Specifically, firms with a “BBB” rating are assigned a score of 1, those with an “A” rating receive a score of 2, firms rated “AA” get a score of 3, and those rated “AAA” are given a score of 4. This transformation creates a quantitative proxy that reflects the firm's level of sustainability achievement, which is subsequently used to evaluate the proposed hypothesis.

The intensity of AI governance (AIG) is assessed through a content analysis of firms' annual reports, which serve as the primary formal channel for firms to communicate their strategic priorities and governance arrangements to external stakeholders. This study builds on previous research that operationalizes organizational initiatives using textual indicators—such as digital transformation (Moolkham, 2025a), financial technology adoption (Lou et al., 2025), and AI adoption (Zhong et al., 2025)—by creating an AI governance dictionary. This dictionary encompasses English keywords and their Thai equivalents, reflecting essential dimensions of AI governance, including oversight structures, risk and compliance management, data governance, ethical principles, and accountability mechanisms. These dimensions are informed by emerging standards and regulatory developments, such as ISO/IEC 42001, the OECD AI principles, the EU AI Act, and Thailand's proposed AI legislation. For each firm-year, the frequency of AI governance-related terms within the annual report is counted, with one added to the count to avoid zero values. The measure is subsequently adjusted using the natural logarithm to reduce skewness and enhance comparability across firms with differing report lengths and disclosure volumes (Moolkham, 2025a). Although this indicator does not directly evaluate the inherent quality of AI governance practices, the frequency of AI governance discourse in annual reports is considered a scalable, disclosure-based proxy for the organizational strategic and strategic prioritization of AI governance.

To isolate the effect of ESG performance on AI governance, the models control for standard firm-level characteristics that are commonly used in corporate finance and governance research: firm size, firm age, leverage, cash holdings, and profitability. Firm size (SIZE) is measured as the natural logarithm of total assets, which captures the operational scale and resource capacity of the firm. Firm age (AGE) is measured as the natural logarithm of the number of years since incorporation, accounting for the lifecycle and organizational maturity. Leverage (LEV) is calculated as total debt divided by total assets, reflecting the capital structure and the extent of creditor monitoring. Cash holdings (CASH) are defined as cash and cash equivalents divided by total assets,

serving as a proxy for internal liquidity and financing flexibility. Lastly, profitability (ROA) is determined by dividing net income by total assets, which captures the operating performance and resource availability of the firm.

### 3.3. Model Specification

To examine the association between ESG performance and AI governance, this study employs an ordinary least squares (OLS) regression with the industry fixed effects. The dependent variable (AIG) is a continuous disclosure-based measure (log-transformed), making OLS appropriate. Industry fixed effects are implemented by including a full set of industry indicator (dummy) variables, allowing the intercept to vary across industries and absorbing time-invariant unobserved heterogeneity at the industry level. The models also control for standard firm characteristics, while standard errors are computed using heteroskedasticity-robust estimates clustered at the firm level, as shown below:

$$AIG_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_i Control_{it} + Industry FE + \varepsilon_{it} \quad (1)$$

where  $AIG_{it}$  represents AI governance of firm  $i$  in year  $t$ , while  $ESG_{it}$  reflects ESG performance of firm  $i$  in year  $t$ . The vector control consists of five variables, namely firm size, firm age, leverage, cash holdings, and profitability.  $\beta_0$  serves as the intercept term, and  $\varepsilon_{it}$  denotes the idiosyncratic error term. Before estimation, multicollinearity testing will be conducted using the Pearson correlation matrix to ensure that no explanatory variables display excessively high correlations.

## 4. EMPIRICAL RESULTS

### 4.1. Descriptive Statistics and Correlation Matrix

Table 1 presents the descriptive statistics and Pearson correlation matrix for the variables utilized in this study. Firms demonstrate a moderate level of ESG performance, with an average ESG score of 2.861, whereas the average AI governance index stands at 0.203, reflecting a relatively low yet significant implementation of AI governance practices. The average firm size of 25.599 indicates that the sample is primarily comprised of relatively large publicly traded companies, while the mean firm age of 3.337 signifies a predominantly mature corporate demographic. The average leverage ratio is 0.552, suggesting that companies finance just over half of their assets with debt, while the average cash holdings of 0.082 reflect relatively limited liquidity reserves. The average return on assets of 0.836 indicates low profitability, aligning with an emerging-market environment. Significantly, all pairwise correlation coefficients are substantially below the standard 0.7

threshold, suggesting that multicollinearity is unlikely to present a major issue for the multivariate analyses.

### 4.2. Hypothesis Testing

The regression results presented in Table 2 indicate a positive and statistically significant relationship between ESG performance and AI governance ( $P < 0.001$ ). This provides strong evidence supporting the hypothesis that ESG performance influences AI governance. When examining control variables, the size, age, cash holdings, and profitability of a company all show positive and significant relationships with AI governance. This implies that larger, older, more liquid, and more profitable firms are more likely to implement effective AI governance practices. Conversely, leverage exhibits a negative relationship with AI governance, suggesting that firms with higher leverage may encounter greater challenges in investing in AI governance. Additionally, the adjusted  $R^2$  value increases from 8.3% to 20.1% upon considering firm-specific factors, indicating that the inclusion of these control variables enhances the model's explanatory power. Overall, these findings confirm the hypothesis that ESG performance is positively associated with AI governance.

### 4.3. Heterogeneity Analysis by CEO Characteristics

Building on the baseline finding that stronger ESG performance correlates with AI governance, this study anticipates significant cross-firm variation in this relationship, as governance choices are ultimately shaped by executives' cognitive frames. Upper echelons theory posits that firm outcomes reflect the characteristics of their top managers; thus, executives' experiences and values influence how they interpret external demands and develop strategic and governance responses (Hambrick, 2007; Hambrick and Mason, 1984). In line with this perspective, existing evidence in the corporate social responsibility domain indicates that CEO-level attributes significantly impact the scope and intensity of responsible practices. This suggests that CEOs are not merely passive implementers of stakeholder expectations but rather active architects of non-market strategies and governance priorities (Godos-Diez et al., 2011; Oh et al., 2016). Applying this reasoning to AI governance, even when ESG performance provides organizational incentives and resources for responsible AI—such as policies, oversight structures, and accountability mechanisms—the extent to which these ESG capabilities are transformed into tangible AI governance arrangements is likely to depend on the CEO's beliefs regarding technology risk, compliance, and reputational exposure.

Building on this argument, this study focuses on the CEO generational cohorts as a significant source of variation in executives' cognitive

**Table 1: Descriptive statistics and Pearson correlation matrix**

Variables	Mean	S.D.	1	2	3	4	5	6	7
ESG	2.861	0.880	1						
AIG	0.203	0.062	0.288**	1					
SIZE	25.599	1.910	0.481**	0.414**	1				
AGE	3.337	0.924	0.135**	0.172**	0.124**	1			
LEV	0.552	0.201	0.153**	0.189**	0.528**	0.197**	1		
CASH	0.082	0.074	0.232**	0.165**	0.208**	0.085**	-0.027*	1	
ROA	0.836	3.746	0.042**	0.086**	0.075**	-0.045**	0.061**	0.230**	1

\*\*Correlation is significant at the 0.01 level (2-tailed). \*Correlation is significant at the 0.05 level (2-tailed)

**Table 2: Hypothesis testing**

Variables	AIG	AIG
ESG	0.288*** (22.910)	0.090*** (6.539)
SIZE		0.366*** (22.958)
AGE		0.122*** (10.088)
LEV		-0.044** (-3.093)
CASH		0.045*** (3.528)
ROA		0.052*** (4.327)
constant	-1.248*** (-8.373)	-19.376*** (-28.199)
F-statistics	524.851***	244.956***
Adj. R <sup>2</sup>	0.083	0.201
Industry FE	No	Yes

T-statistics are reported in parentheses. \*\*\*P<0.001, \*\*P<0.01, \*P<0.05

frames. Generational cohorts capture shared formative experiences and value orientations that can systematically shape how CEOs perceive technology-related risks and opportunities. Prior research documents systematic cohort differences in values and priorities that can affect organizational decision-making (Twenge et al., 2010). More directly, recent evidence indicates that CEO generation is associated with materially different environmental outcomes, with firms led by younger-cohort CEOs exhibiting lower corporate carbon emissions than those led by Boomer CEOs (Adamolekun et al., 2025). Supplementary research also indicates that Millennial CEOs can systematically transform fundamental corporate relationships in alignment with specific cognitive frameworks and decision-making heuristics (Åberg et al., 2024). Accordingly, this study conducts a heterogeneity analysis by CEO generational cohorts to test whether leadership generation conditions the strength of the ESG–AI governance linkage.

This study classifies CEOs into generational cohorts using age at fiscal year-end and the generational literature that distinguishes Gen Y, Gen X, and Baby Boomers (Jorgensen, 2003). Specifically, this study constructs three mutually exclusive dummy variables: GENY\_CEO equals 1 if the CEO is aged 28–43 and 0 otherwise; GENX\_CEO equals 1 if the CEO is aged 44–59 and 0 otherwise; and BB\_CEO equals 1 if the CEO is aged 60 or older and 0 otherwise, using biographical information from annual reports, one-report filings, and corporate websites. This framework enables an examination of whether firms led by different generational cohorts of CEOs enhance or diminish the relationship between ESG and AI governance.

The heterogeneity analysis results shown in Table 3 indicate that CEO traits affect how well ESG performance translates into AI governance. First, the interaction terms indicate that firms led by Gen Y and Gen X CEOs amplify a significantly stronger positive association between ESG performance and AI governance ( $P < 0.001$ ), suggesting that younger and middle-aged executives are more likely to leverage ESG capabilities to more formalize AI-related policies, controls, and oversight mechanisms. By contrast, the interaction with Baby Boomer CEOs is negative but statistically insignificant ( $P > 0.05$ ). This suggests that, unlike their younger counterparts, Baby Boomer leadership does not significantly moderate the relationship between ESG performance and AI governance. In other words, there is no evidence that firms led by Baby Boomer CEOs systematically leverage ESG capabilities to strengthen AI governance.

**Table 3: The moderating role of CEO generational cohorts**

Variables	AIG	AIG	AIG
ESG	0.095*** (6.843)	0.014 (0.874)	0.105*** (6.328)
ESG*GENY_CEO	0.125*** (3.571)		
ESG*GENX_CEO		0.147*** (9.159)	
ESG*BB_CEO			-0.064 (-1.651)
GENY_CEO	-0.062 (-1.781)		
GENX_CEO		-0.035* (-2.522)	
BB_CEO			0.061 (1.582)
SIZE	0.360*** (22.520)	0.371*** (23.421)	0.363*** (22.624)
AGE	0.124*** (10.268)	0.128*** (10.569)	0.122*** (10.005)
LEV	-0.050*** (-3.503)	-0.051*** (-3.552)	-0.042** (-2.849)
CASH	0.043*** (3.403)	0.046*** (3.687)	0.046*** (3.635)
ROA	0.045*** (3.675)	0.050*** (4.067)	0.050*** (4.031)
Constant	-19.082*** (-27.775)	-19.458*** (-28.531)	-19.458*** (-28.199)
F-statistics	189.028***	197.772***	184.081***
Adj. R <sup>2</sup>	0.206	0.213	0.201
Industry FE	Yes	Yes	Yes

T-statistics are reported in parentheses. \*\*\*P<0.001, \*\*P<0.01, \*P<0.05

## 5. DISCUSSION

The main finding—that ESG performance has a significant positive association with AI governance—supports the view that ESG capabilities function as an advanced internal governance infrastructure that can be redeployed to address emerging technological risks. Consistent with this interpretation, prior evidence indicates that robust ESG performance enhances investment efficiency by alleviating information asymmetry, reducing financial constraints, and diminishing risk (Bilyay-Erdogan et al., 2024). Likewise, high-ESG firms exhibit lower abnormal stock price volatility because their transparency and stakeholder engagement attract more stable investor attention (Wu et al., 2024). From the RBV and stakeholder-oriented perspective, ESG performance itself reflects valuable, rare, and hard-to-imitate organizational capabilities in compliance, data systems, and stakeholder management (Bhandari et al., 2022). Consequently, this finding suggests that these ESG-related capabilities and routines can be extended to the design of policies, controls, and oversight for AI systems, thereby strengthening AI governance. In other words, firms that have already institutionalized ESG as a core governance logic appear more likely to build formal structures and processes that ensure ethical, transparent, and accountable AI use.

The moderating role of CEO generational cohorts further indicates that leadership imprinting significantly influences how ESG capabilities are translated into AI governance practices. The finding that Gen Y and Gen X CEOs notably strengthen the positive relationship between ESG and AI governance, while Baby Boomer CEOs show a minor and statistically insignificant

negative moderation, supports upper echelons theory, which posits that formative life experiences and cohort-specific values affect strategic decisions. Younger leaders generally have a greater comfort level with digital technologies (Williams and Turnbull, 2015); thus, they may view AI governance as a natural progression of their existing ESG commitments, utilizing ESG metrics and stakeholder expectations to identify and address AI-related risks and opportunities. In contrast, Baby Boomer CEOs, whose managerial style often prioritizes hierarchical control (Appelbaum et al., 2004; Jenei and Machova, 2024), may be less motivated to translate ESG strengths into structured AI governance frameworks. This observation aligns with the weak and negative—but statistically insignificant—moderation effect noted in the findings. Overall, this generational trend suggests that ESG capabilities do not inherently lead to AI governance; rather, this translation is enhanced when younger cohorts hold top decision-making positions.

## 6. CONCLUSION AND IMPLICATIONS

This study concludes that ESG performance is an important organizational driver of AI governance and that this effect is critically conditioned by CEO characteristics. The evidence indicates that companies with superior ESG performance are more inclined to establish robust AI governance frameworks, reinforcing the notion that ESG-related competencies in compliance, transparency, and stakeholder management can be repurposed as an internal governance infrastructure for emerging technological risks. At the same time, the translation of ESG capabilities into AI governance is not automatic but depends on who leads the firm. The positive moderating effects of Gen X and Gen Y CEOs, contrasted with the insignificant negative moderation of Baby Boomer CEOs, indicate that younger cohorts—who are more digitally oriented—are better positioned to convert ESG commitments into concrete AI policies, controls, and oversight. Overall, the findings highlight a dual governance architecture in which ESG performance provides the structural “hardware” for responsible AI, while CEO generational imprints operate as the “software” that determines whether and how these ESG capabilities are effectively leveraged to build and sustain AI governance.

### 6.1. Research Implications

The findings yield several theoretical and practical implications. Theoretically, they extend agency theory by illustrating how ESG performance serves as an internal governance structure that restricts managerial discretion, not only in traditional areas such as investment and risk-taking but also in the design and oversight of AI systems. Additionally, they enhance stakeholder theory by demonstrating that firms committed to ESG and stakeholder interests are more likely to translate stakeholder expectations into concrete AI governance frameworks. Furthermore, they RBV view by highlighting ESG capabilities and CEO human capital—encompassing generational cohorts—as complementary strategic assets that jointly influence the effective utilization of ESG in governing AI.

Practically, the results indicate that boards are advised to integrate AI oversight directly into existing ESG frameworks rather than treating it as an isolated technical silo. Furthermore,

succession committee planning committees should prioritize Gen X and Y candidates—or explicitly screen for digital-ethical adaptability—to ensure top-level leadership possesses the intrinsic orientation required to translate ESG values into robust AI guardrails. For investors, they should utilize ESG performance as a leading indicator of a firm’s AI risk management capability. Furthermore, they are encouraged to adopt a demographic lens during due diligence, viewing the intersection of strong ESG scores and Gen X or Gen Y leadership as a premium signal for reduced regulatory risk and superior long-term viability. For policymakers, they should harmonize AI governance guidelines with existing ESG standards to foster synergistic compliance, specifically by mandating the disclosure of AI ethical frameworks within sustainability reports. This requirement should explicitly cover AI’s social and environmental impacts, thereby preventing fragmented regulatory regimes and ensuring a unified approach to non-financial disclosure. Additionally, policy frameworks ought to incentivize “digital ethics” education for all C-suite executives, aiming to institutionalize the adaptive advantages observed in Gen X and Y cohorts across the broader corporate spectrum.

### 6.2. Research Limitations and Future Research directions

This study has several limitations that present opportunities for future research. First, ESG performance is assessed using SET ESG ratings, which were introduced in 2023 and currently encompass a limited number of firms. This may restrict both the sample size and the variability of ESG scores. Future research could enhance the analysis by incorporating alternative ESG metrics or triangulating data from multiple rating providers to improve robustness. Second, AI governance is represented through the presence of AI governance-related keywords in annual reports. However, this may reflect symbolic transparency rather than the true depth and quality of internal AI governance practices. Subsequent studies could utilize more detailed text-analytic techniques, such as gathering surveys or interview data from board members and executives, or examine process-level evidence, including internal AI policies, audit trails, and risk registers, to more accurately assess AI governance. Third, the empirical setting is confined to Thai-listed companies, where institutional, regulatory, and cultural characteristics may differ from those in other markets. This limitation may hinder the generalizability of the findings. Future research could explore cross-country comparisons, replicate the model in other emerging and developed markets, or employ multi-level designs that explicitly incorporate country-level governance and digital readiness indicators.

## REFERENCES

- Abdelsalam, O., Chantziaras, A., Grougiou, V., Leventis, S., Tsileponis, N. (2025), Sustainability performance and corporate risk: Evidence from the Tourism industry. *International Journal of Finance and Economics*, Advance online publication, 1-27.
- Åberg, C., Calabrò, A., Valentino, A., Torchia, M. (2024), Socioemotional wealth and family firm performance: The moderating role of CEO Tenure and Millennial CEO. *British Journal of Management*, 35(4), 2103-2121.
- Adamolekun, G., Kwabi, F., Adekunle, I.A. (2025), Just the way i am wired: CEO generation and corporate carbon emissions. *Finance Research Letters*, 86, 108474.

- Appelbaum, S.H., Serena, M., Shapiro, B.T. (2004), Generation X and the boomers: Organizational myths and literary realities. *Management Research News*, 27(11-12), 1-28.
- Aydoğmuş, M., Gülay, G., Ergun, K. (2022), Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, 22, S119-S127.
- Batool, A., Zowghi, D., Bano, M. (2025), AI governance: A systematic literature review. *AI and Ethics*, 5(3), 3265-3279.
- Bhandari, K.R., Ranta, M., Salo, J. (2022), The resource-based view, stakeholder capitalism, ESG, and sustainable competitive advantage: The firm's embeddedness into ecology, society, and governance. *Business Strategy and the Environment*, 31(4), 1525-1537.
- Bilyay-Erdogan, S., Danisman, G.O., Demir, E. (2024), ESG performance and investment efficiency: The impact of information asymmetry. *Journal of International Financial Markets Institutions and Money*, 91, 101919.
- Birkstedt, T., Minkkinen, M., Tandon, A., Mäntymäki, M. (2023), AI governance: Themes, knowledge gaps and future agendas. *Internet Research*, 33(7), 133-167.
- Boonmee, C., Mangkalakeeree, J., Jeong, Y. (2025), Towards sustainable digital transformation: AI adoption barriers and enablers among SMEs in Northern Thailand. *Sustainable Futures*, 10, 101169.
- Chen, W., Xie, Y., He, K. (2024), Environmental, social, and governance performance and corporate innovation novelty. *International Journal of Innovation Studies*, 8(2), 109-131.
- Eccles, R.G., Ioannou, I., Serafeim, G. (2014), The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835-2857.
- Freeman, R.E., Dmytriiev, S.D., Phillips, R.A. (2021), Stakeholder theory and the resource-based view of the firm. *Journal of Management*, 47(7), 1757-1770.
- Friede, G., Busch, T., Bassen, A. (2015), ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance Investment*, 5(4), 210-233.
- Godos-Díez, J.L., Fernández-Gago, R., Martínez-Campillo, A. (2011), How important are CEOs to CSR practices? An analysis of the mediating effect of the perceived role of ethics and social responsibility. *Journal of Business Ethics*, 98(4), 531-548.
- Hambrick, D.C. (2007), Upper echelons theory: An update. *Academy of Management Review*, 32(2), 334-343.
- Hambrick, D.C., Mason, P.A. (1984), Upper echelons: The organization as a reflection of its top managers. *The Academy of Management Review*, 9(2), 193-206.
- Jenei, S., Machova, R. (2024), Motivations of generations: The importance of leadership and communication styles at the workplace. *Journal of Infrastructure Policy and Development*, 8(16), 9602.
- Jensen, M.C., Meckling, W.H. (1976), Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jorgensen, B. (2003), Baby boomers, generation X and generation Y?: Policy implications for defence forces in the modern Era. *Foresight*, 5(4), 41-49.
- Lee, H. (2025), Does ESG performance drive firm-level innovation? Evidence from South Korea. *Sustainability*, 17(4), 1727.
- Lee, S.U., Perera, H., Liu, Y., Xia, B., Lu, Q., Zhu, L., Cairns, J., Nottage, M. (2025), Integrating ESG and AI: A comprehensive responsible AI assessment framework. *AI and Ethics*, 5(5), 5121-5148.
- Lou, Y., Zhu, Q., Liang, C. (2025), Financial technology and firm operational resilience: The roles of supply chain resilience and marketing capability. *International Review of Economics Finance*, 104, 104744.
- Mäntymäki, M., Birkstedt, T., Viljanen, M. (2022), Defining organizational AI governance. *AI and Ethics*, 2(4), 603-609.
- Moolkham, M. (2025a), Digital transformation, financial performance and firm valuation: The moderating effect of environmental risk. *Journal of Climate Finance*, 13, 100075.
- Moolkham, M. (2025b), SET ESG ratings and firm value: The new sustainability performance assessment tool in Thailand. *PLoS One*, 20(2), e0315935.
- Oh, W.Y., Chang, Y.K., Cheng, Z. (2016), When CEO career horizon problems matter for corporate social responsibility: The moderating roles of industry-level discretion and blockholder ownership. *Journal of Business Ethics*, 133(2), 279-291.
- Papagiannidis, E., Mikalef, P., Conboy, K. (2025), Responsible artificial intelligence governance: A review and research framework. *The Journal of Strategic Information Systems*, 34(2), 101885.
- Rattanakom, S., Nilapornkul, N., Suwanna, T., Kongkaew, T. (2023), ESG performance impacting on systematic risk of the listed companies on the stock exchange of Thailand. *RMUTT Global Business Accounting and Finance Review*, 7(2), 36-47.
- Roberts, H., Hine, E., Taddeo, M., Floridi, L. (2024), Global AI governance: Barriers and pathways forward. *International Affairs*, 100(3), 1275-1286.
- Schneider, J., Abraham, R., Meske, C., Vom Brocke, J. (2023), Artificial intelligence governance for businesses. *Information Systems Management*, 40(3), 229-249.
- Sklavos, G., Theodossiou, G., Papanikolaou, Z., Karelakis, C., Ragazou, K. (2024), Environmental, social, and governance-based artificial intelligence governance: Digitalizing firms' leadership and human resources management. *Sustainability*, 16(16), 7154.
- Suttipun, M. (2023), ESG performance and corporate financial risk of the alternative capital market in Thailand. *Cogent Business Management*, 10(1), 2168290.
- Treepongkaruna, S., Suttipun, M. (2024), The impact of environmental, social and governance (ESG) reporting on corporate profitability: Evidence from Thailand. *Journal of Financial Reporting and Accounting*, Advance online publication.
- Twenge, J.M., Campbell, S.M., Hoffman, B.J., Lance, C.E. (2010), Generational differences in work values: Leisure and extrinsic values increasing, social and intrinsic values decreasing. *Journal of Management*, 36(5), 1117-1142.
- Velte, P. (2017), Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, 8(2), 169-178.
- Williams, S., Turnbull, S. (2015), Developing the next generation of globally responsible leaders: Generation Y perspectives and the implications for green HRD. *Advances in Developing Human Resources*, 17(4), 504-521.
- Wu, F., Zhu, B., Tao, S. (2024), Can good ESG performance of listed companies reduce abnormal stock price volatility? Mediation effects based on investor attention. *PLoS One*, 19(9), e0307535.
- Zhong, Y., Zhong, J., Yang, T., Han, M., Zhang, Q. (2025), Do artificial intelligence applications affect firm stock liquidity? Evidence from China. *Applied Economics Letters*, 32(2), 204-209.